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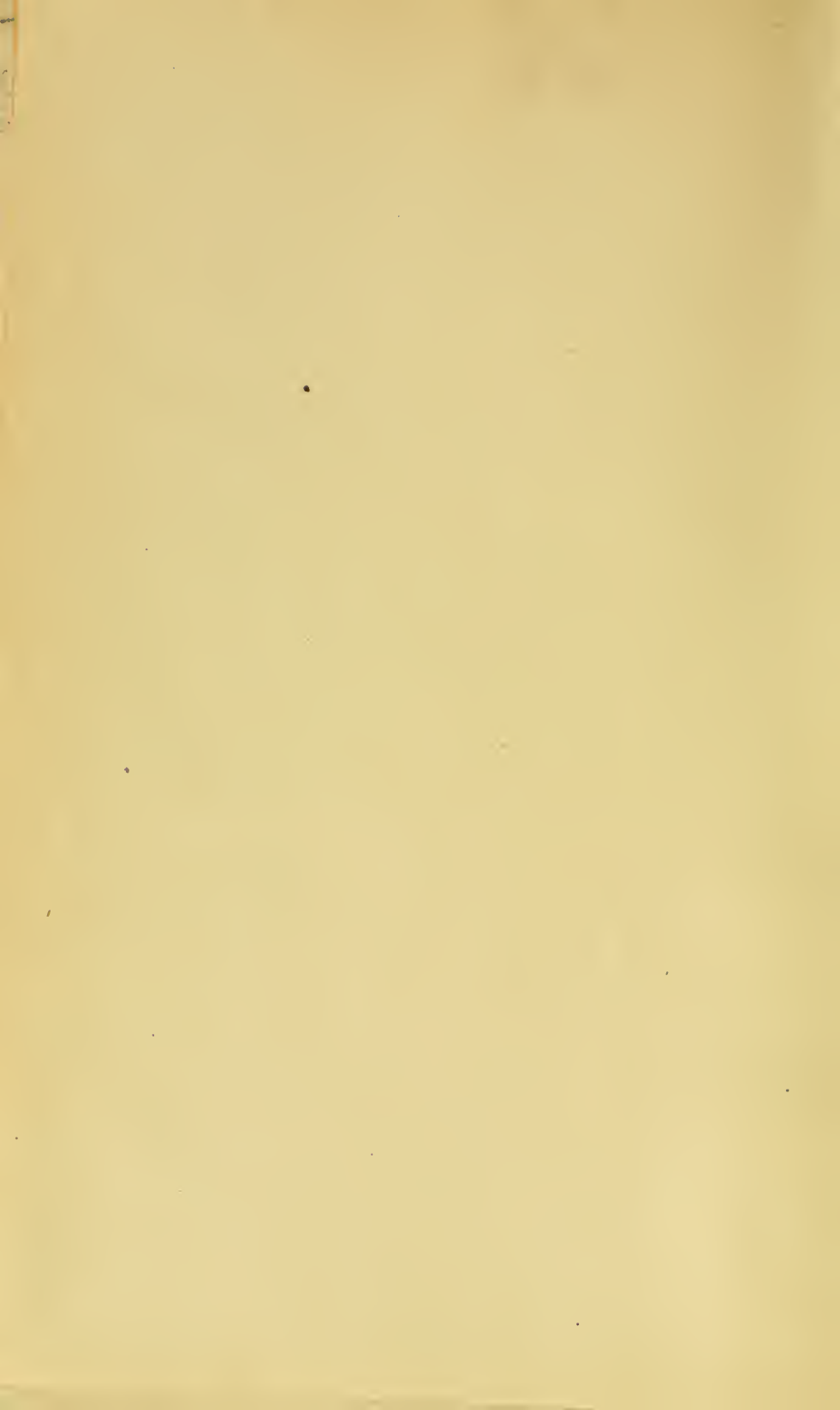
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MASSACHUSETTS
AGRICULTURAL
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ENTOMOLOGY



VOL. I.

JANUARY, 1891.

NO. 1.

Fixed vs. Loose Bottom-boards.

BY DR. C. C. MILLER.

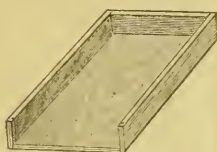
The subject of hives is a somewhat ticklish one to tackle, for fear of stepping on some one's corns, but I think *bottom boards* belong to all so I am quite safe. We are likely to be prejudiced; I am sure I am. When I first kept bees I had loose bottom-boards and did not see how I could get along without them. Then Vandervort, (he of Foundation Mill fame,) moved away from Marengo and I bought his stock of hives. They had fixed bottoms and I found decided advantages in them, so great indeed, that I concluded I wanted no loose bottoms, and continued in that mind for a good many years.

Years ago great stress was placed on the importance of upward ventilation when wintering in cellars. Before I had any frame hives, I wintered box hives in the cellar, turning them upside down, *a la* Quinby. It was upward ventilation with a vengeance, but they wintered well. There was no lower ventilation and it was not strange that upon adopting frame hives there was no great need felt of having much opening below. In the

course of years the pendulum of opinion swung clear to the other extreme, and hives were put in the cellar with everything at the top sealed up as tight as bee-glue could make it. Some of the veterans then began to insist very strongly that much ventilation was needed at the bottom even to the extent of having the whole bottom entirely open. One of them, H. R. Boardman, had notable success in wintering, and I think gave the credit mainly to open bottoms. With the fixed bottoms it was impossible for me to increase bottom ventilation, and if I wanted the advantage of large bottom ventilation I must resort to loose bottoms. So it was not strange that I should carefully compare the relative merits of loose and fixed bottoms. A fixed bottom has the important advantage of being always ready in its place. If you wish to move the hive three feet or three miles, no attention need be paid to the bottom board. It is a part of the hive, always there. The value of this convenience is enhanced when out-apiaries come into play with their attendant hauling.

The loose bottom gives a chance to raise the hive at any time and look

under it, it is easily cleaned and above all, it gives a chance for unlimited lower ventilation. I wanted the open bottom, or something approaching it, in winter, and I wanted the bottoms fixed, in summer, so I adopted a bottom board that by a little trouble gives me both advantages. I do not know how much there is in it of originality, possibly nothing.



It is simply a shallow box open at one end, $1\frac{1}{2}$ inches deep. The hive stands on this

the open end at the entrance. Thus there is a space of 2 inches between bottom bars and bottom boards, with an opening at the entrance full width, 2 inches high. The hive is fastened to the bottom board by means of screws, one near each corner, driven through the side of the hive in a slanting manner. When the hive is set in its place for the summer the screws are loosened, the bottom-board reversed and the hive placed on it, leaving the old shallow space under the hive; in other words, it is a loose bottom board through the summer. When all storing is over for the season the bottom is reversed and the screws fastened, a 2 inch nail driven into the cover at one corner and one at the corner diagonally opposite, and top and bottom are left thus fastened until after the hive is hauled home, wintered, and hauled back again in the spring. Of course, the bees are fastened in at the time of hauling. To do this there is a saw-kerf in the rim of the bottom-board at each side of the entrance and a little gate of doubled wire cloth slid into this, fastening the bees in.

After the hive is hauled home a piece of wire with three meshes to the inch is slid into the saw-kerf and no mice can get in.

Marengo, Ill.

Queen Excluders in the Production of Comb Honey.

BY DR. G. L. TINKER.

The practical utility of queen excluders, both the wood-zinc and those made of whole sheets of perforated zinc, in the production of extracted honey, is now generally admitted among bee-keepers of experience. But as to their use in the production of comb honey there seems to be doubt as to their value, as well as to the proper conditions for their use. For the last two years the writer has taken every opportunity to advise against the use of queen excluders on brood chambers of large capacity as being an expedient of no utility or advantage of any kind, yet hundreds of such hives have been sent out the past season fully equipped with section supers and queen excluders in the latest fashion, on the supposition that the latter were just as useful on one kind of hive as another. Now that it is known that they are not, it is sought to dispense with queen excluders altogether, rather than to modify the hive to the requirements of the queen excluder in the production of comb honey. The question is not raised as to the practicability of raising comb honey without the queen excluders, that is not disputed, but the question is: Can comb honey be raised in larger quantities and more profitably with than without queen excluders, where the hive is made to conform to their

requirements? The writer takes strong ground in favor of the modified hive and the use of the excluders, and has the evidence to back up his position in the way of comparative results in the yield of comb honey by the old and the new systems of procedure, thus proving that a queen excluder, when rightly used, is one of the greatest inventions of modern times favoring profitable apiculture. Why it is so is not very difficult to get at.

The principal of contracting the brood nest at the right time in producing comb honey is a measure sanctioned by the majority of leading apiarists in this country, and it is universally conceded that if the brood nest is contracted to any considerable extent a queen excluder is a necessity. The reason why there is any difference of opinion in the matter is because in certain localities no contraction of the brood nest is ever advisable excepting under rare circumstances affecting nectar secretions. There are localities where there is an almost continuous flow throughout the season, and wherever we find such localities, whether in this or any other country, the most profitable bee-keeping is with large brood nest and large hives. In quite a number of districts in France, it is stated by Mr. Cowan, in his recent interesting address before the British Bee-Keeper's Association, (B. B. J., pp. 518,) that there is an almost continuous flow of nectar from Spring to Autumn, and he found the bee-keepers there nearly all using Dadant's and DeLayen's large hives, the latter containing from 16 to 24 brood frames, "about double the size of our standard frames." No one in their right senses

would talk about contraction of the brood nests in such localities, but unfortunately they are few and far between in this country. Where we have one such locality there are a hundred where the season for surplus ends with the white clover or the basswood bloom. It is in these localities, which so largely predominate, that we must contract the brood nest, both during the honey flow and during the balance of the season, if one would make the most of bee keeping, and whoever admits the advantage of such contraction in his locality will be compelled to admit the value of the queen excluder in the production of comb honey.

Contraction of the brood nest, as heretofore, resulted in the deprivation of the natural stores, so that the bees had to be fed sugar syrup for Winter, but now we have a new system of management in this regard whereby there would be left abundant stores for Winter, so this principal objection to contracting the brood nest ceases to exist. By way of explanation it may be added, that the contracted brood nest approved of contains not less than 800 square inches of brood comb, that this brood nest is amply large for all colonies from about the first of June till Fall, and is especially adapted to swarms in securing the largest results in comb honey, and that a two-story hive is required for breeding up in Spring and for the best results in wintering.

New Philadelphia, O.

Our February issue will contain description and engravings of the Rhode Island Nellis Hive, which is used at the R. I. Experiment Station.

A New Year.

BY MRS. L. HARRISON.

New Year's Day is the usual time of settling off old scores and making good resolutions for the future. Bee-keepers, in common with the rest of mankind, are far from being perfect, and it may not be amiss to do a little of that resolving.

Resolved, That we will use white-wood sections, and that we will endeavor to have one pound sections *weigh one pound*.

Resolved, That we will not use foundation in sections unless it takes from ten to twelve square feet to weigh one pound.

Resolved, That we will pack our crates uniform throughout,—not facing the glass with pearly white sections and put discolored ones in the centre.

Resolved, That we will cultivate our home market to the fullest extent in order to prevent the product accumulating in large cities, thus reducing the price, and that we will not undersell one another.

Resolved, That in order to keep peace at home and invasion from abroad we will surround our apiaries with a lawful fence, "horse high, full strong and pig tight," and if our bees are kept near to a neighbor or highway that there shall be a high board fence, hedge or clump of trees intervening, and we will not locate hives or bees near to a hitching post.

Resolved, That we will protect honey plants and throw their seeds in waste places.

PROCRASTINATION.

The poet has well said, "procrastination is the thief of time." This old thief has stolen much from bee-keepers, and they should all keep a keen eye upon the wary old rascal. Let us stop a moment and recall some of his sly pilferings: Mr. Go-Easy lost his three first swarms while he went to buy hives when they were in the air.

Plenty-of-time-enough lost the greater part of his honey crop, and what he did get was not in good marketable shape, because he neglected to order sections until they were needed. Swing-in-the-hammock works his tobacco to one side as he recounts the ravages of the bee-moth and his terrible losses by cold Winters. Guess-it-will-do lost a valuable horse while moving bees because he did not fasten the bees securely in the hives while moving.

Let us, at the commencement of this new year, organize a brigade of "ever readies," faithful until the last, and see "What will the harvest be?" It will be necessary for us then to take an inventory of stock and see how many new hives we shall probably need, and guess at the number of sections. It is true that we have had little need of sections for the past two years, but would it not be better to pay interest on them for a year than to be without them when needed? Who can estimate what the worry and fret costs of running to the station after bee supplies when they are needed, and the abuse the agents get for their non-arrival. All these can be saved by *ordering early*. Especially is this necessary when the goods are not kept in stock by the supply dealers whom you patronize. These servants of the people have to work night and day during the busy season in order to fill their orders, and how much better it would be for all concerned if orders were sent in early. Hives that are purchased in the flat could be nailed up and painted during the cold stormy winter, when little else could be done. What a calamity it would be, if, when laggards needed their goods, the Falconer should be away training hawks.

Peoria, Ill.

The Secret of Out-door Wintering.

BY E. L. PRATT.

Very few bee-keepers seem to understand the principle of wintering bees out of doors successfully. I am decidedly in favor of double walled hives, but not as generally made. I am not a Chaff hive man, never was, and doubt if I ever will be. They are too ponderous, too expensive and not what is claimed for them. We want hives that not only Winter the bees but Spring them also, and this cannot always be said of a Chaff hive. The Chautauqua hive has the correct principle, but I want a hive that I can work single or double as I choose, therefore there is nothing that suits me so well as a thin Winter case with gable cover made to telescope over the case, allowing about $\frac{3}{4}$ of an inch ventilation at each gable end. As cold weather comes on, the out-side cases can be slipped on over the hives and they are safe until Thanksgiving, when final preparations are usually made. There should be no packing material used between brood chamber and case until breeding commences in the Spring, as the heat generated by the cluster is not sufficient to throw off the moisture until then, and the sun does not get a chance to dry and to warm up the hive so thoroughly when packed at the sides as it does with no packing. A good, thick cushion made of cut hay or straw, large enough to fit snugly inside the case should be provided for each colony. Lay a section box, or a small block of some kind, on the top-bars where the bees are clustered the thickest, throw over that a piece of burlap

or old carpet, and crowd the cushion snugly down over all, put on the Winter roof, and either nail or screw it down so as to be sure the wind cannot remove it, and I warrant the bees in that hive to come out sweet and clean in the Spring, and all alive, provided they have had stores enough.

When breeding commences is the time to pack at the sides, as then the cluster has expanded and the heat is sufficient to throw off all dampness. At the time the packing is put at the side the cushion should be raised and a thin board laid over to cover the brood chamber, as now we wish to retain all the heat possible so that brood rearing will progress very rapidly. There is no fear but what they will be strong enough for clover if these directions are followed.

Feeding to stimulate brood-rearing should be practiced during the dull weather, soon after fruit bloom.

Beverly, Mass.

We cannot impress it too fully on your minds, the advisability of ordering your supplies at the earliest possible moment. There are indications that supply dealers will be almost or quite as hard pressed the coming season as last.

The 22d Annual meeting of the New York State Bee-Keeper's Association will be held in Agricultural Hall, Albany, N. Y., January 22 24th, 1891. You will have to pay full fare going, but we will give you return certificates over any road running into Albany, (except Boston & Albany,) at one-third regular fare. Come and bring your friends with you. If you want a program send your address on a postal to the Secretary,

G. H. KNICKERBOCKER, Sec'y.,
Pine Plains, N. Y.

P. H. ELWOOD, Pres.

The Auxiliary Colony.

BY GEO. A. STOCKWELL.

The auxiliary colony is an important factor in any apiary. Indeed, it is indispensable. A nucleus colony may be called an auxiliary colony, and any colony may be occasionally immediately auxiliary to some other colony, but the distinctive auxiliary is the servant, throughout the season, of all colonies, or of so many as may require its aid.

The auxiliary colony is not expected to store honey except for its own use. It must be as strong as it is possible to make it. The keeper should begin to build it, or help it to build itself, in the fall or early spring. It does not matter what kind of bees are employed. If there be in the apiary a colony of testy, hot-tempered blacks that fight and stab at every opportunity without sufficient provocation, let that colony be the auxiliary colony, or one of them, for there should be several in a large apiary.

If the fiery temper of the black rascals is not subdued, squelched, if the colony does not have some respect for its master before the season be over, then it is not worth saving, and the race should be changed by a new queen. But they will yield if properly "worked," and will recognize the keeper as absolute master.

The hive for the auxiliary colony is the two-story Simplicity. The upper story may be another body like the brood chamber, or it may be two half-stories. Before the season be over, it may be tiered up with other half-stories. The auxiliary colony is a comb-builder exclusively, although it may be robbed to strengthen other

colonies, but in an apiary properly conducted there should be no colonies to build up. The nuclei are not working colonies, only bee-plants of inferior growth not ready to bear fruit.

Experience shows that the honey gathered is larger when the bees have ready-made combs, when there is nothing to do except to empty the honey into receptacles already prepared, than under the usual conditions. During the flow of any kind of honey, the bees cannot gather all of it, but they will gather more, or they will have more time to gather it if there be no comb to build.

The greatest success comes, if at the beginning of the flow of honey, a crate of ready-made combs be placed in the surplus chamber. This gives the bees a great impulse. If the brood chamber be full, as it ought to be, except laying room for the queen, there is no place for honey, except in the surplus combs to put it, and there it goes with a rush.

The combs used early in the season are made the year before, either by the auxiliary colony or other colonies, the latter being unfinished sections emptied by the extractor. It is the work of the auxiliary colony to make comb all summer, either pound sections, or combs in brood-frames for extracted honey.

When the auxiliary colony has nearly completed a crate of combs, it is taken away with the honey and given to a storing colony. The effect on the storing colony is wonderful. Here is more room, here are sections dripping with honey! The most indifferent colony is aroused at once, and if it appears to be on the point of

swarming, this opening of the surplus chamber, and the honey in the new comb fresh from bee-fingers, prevents it. There is something to do beside swarming. The bees appear to lose their heads for a time, but soon fall to work with great vigor.

And the effect on the auxiliary colony, given sheets of wax and a few full combs in which to store incoming honey, is similar. They appear to work with renewed energy. Indeed, in some cases continued robbing appears to stimulate.

Some keepers claim that this—the auxiliary hive method—is contrary to nature, that every colony should build its own comb, that wax is a natural product, and that it is lost if not used in comb building. The science of bee-keeping as practiced now is contrary to nature in many features. Processes generally are artificial. As to lost wax, there is some doubt. Perhaps by losing wax, if it be lost, there is a gain in honey. If the apiary produce only extracted honey, and the same store combs be used year after year, as they may be, then it is better to lose wax than to pay the bees twenty pounds of honey for one of wax.

It is claimed, also, that the bees work better, in better spirits and more advantageously if they be allowed to build their own comb. Experience disproves this conclusively. Season after season, colonies have made no comb except to brace and to repair, and the product was greater than that of colonies that built comb.

The progressive keeper does not consider preparations for spring complete unless he has on hand empty

combs enough, made the previous season, to hold all the comb, or extracted honey, likely to be gathered during the early part of the season, or till the auxiliary, at work, can supply the demand.

Providence, R. I.

Unprotected Hives.

BY R. F. HOLTERMAN.

A trip through thirty miles of country in December would bring anyone to realize that bee-keeping is not the business it ought to be; by that is meant, it has not reached that state of perfection which it might if the knowledge at our disposal were utilized. Driving through the country with excellent sleighing and a fair winter temperature it does seem out of place that bee hives and bees should stand exposed to all the changes of temperature, and just as they did in mid-summer. It is even not an unusual occurrence that the upper stories are still on them. Would a man leave his cattle or horses so exposed? If he did, every good farmer would at once condemn him. Why then should it be almost the exception that the bee-keeper protects his hives? Every one knows that when men or cattle are exposed to cold they will require more food to keep them in condition, and if the cold is extreme they will wear out quicker. With bees we have every reason to believe that the same holds good. If exposed to cold they require more honey to keep them warm, and in keeping themselves warm with an effort, they exhaust and wear themselves out.

It is not difficult to see why more than the usual number of bees are

unprotected. We have had several mild winters in succession, and the first winter, neighbor Jones says to Smith, Oh ! I wintered my bees without any packing and they came through in splendid shape, so Jones makes a convert, and where one man wintered in this way in 1888, there are four in 1890. But, wait until a severe winter comes, as it may this year, then there will be some mourners in the spring. "Bad luck" will be blamed and not carelessness. Wintering without protection is particularly dangerous when bees have not an abundance of stores. The reason is, they require more food, and then if it turns very cold the bees cannot break cluster to reach stores, and if it remains cold long they must perish. The best of stores, too, become necessary, as the more the bees consume the more they require to have cleansing flights at frequent intervals. Such being the case it will not be a difficult matter to foresee that the winter losses will be great. No one desires to see the contrary more than myself, and for that reason I would suggest even now, that unprotected colonies be cared for. Of course, it will not do to disturb them in cold weather, as they will eat an undue amount of honey and become diseased, unless they can have a cleansing flight at once.

It would, however, be well to prepare cases that can be placed over the hives gently and quickly, and after bridging the entrance pack with sawdust, chaff or the like, to keep off the cold. I prefer to put several colonies in a clump, as the bees are probably able to stand the cold better, yet this should not be done at this time of the

year, as the disturbance is too great. If the bees should take a cleansing flight it would be a good time to give them any little extra attention required, as it will do no harm to disturb them a little at that time. If the upper stories are still on the hive it will be better to let them remain until spring, and then they should be taken off, as the room is too large for the bees to keep warm, and brood rearing will be retarded.

Of course, these remarks do not apply to latitudes where bees can have cleansing flights every few days with certainty, yet even here, some points, it appears to me, will apply, and more care generally will give better results and less failures in bee-keeping.

Romney, Ont.

Our Correspondents.

A Letter from Cuba.

MR. EDITOR : Perhaps you would like to hear from this "land of flowers." We are getting along very well, everything considered. The last year has been a remarkable one for Cuba. The lack of our usual amount of rain has operated to a great disadvantage to the bee-keepers here as well as elsewhere, but, notwithstanding all, our bees have done remarkably well, passing through a long dearth during the summer with but little help, and considering that we have 500 colonies in our apiary you can readily appreciate the great resources of this country. However, we take considerable credit to ourselves for the good results we are now getting, for through the months when there is nothing one can see for the bees to feed upon, not a

day did we slack our vigilance, but was constantly on the watch and were able to help those that needed it in time, so that when the harvest did come we had the bees ready and willing for the work before them, in proof of which I will say, that in November we took 10,500 pounds of honey, a thing that has never been done before in Cuba, and the first three days of December, 6,000 pounds, making 16,500 pounds to this date, and it is only the beginning, for December is very much better than November, and January is the best of all. February is about like November, making four months of pretty good harvest. Not only did we watch and work with our bees during the summer, but we put in over 350 young queens which are contributing to our success. We change our queens every two years, for they lay so continuously in this warm climate that at the end of that time they are not worth much. Perhaps one in twenty-five would do good work for three years.

We breed pure Italian queens and let them keep such company as suits them when they are young ladies, and the result is, the workers are for the most part hybrids, from no bands at all to one and two, but they are of the "get there" stripe. We have a good many colonies that have stored five top boxes full at this date, seven combs in a box, five pounds to the comb, 175 pounds per colony, and only the beginning of the harvest, yet I have read reports from Cuba which said the range was overstocked with 250 or 300 hundred colonies. What nonsense! I wish I had 1,000 colonies in our apiary from now until the 15th

of February. I would get 100 per cent. more honey, then I would move 500 of them away four miles, where they would need no feeding in summer, and I would move them back the 20th of November, for during the bell-flower season it is practically impossible to overstock. This matter of overstocking is often in the man and his bees. A poor bee-man with a poor played-out strain of bees in the best location will cry about overstocking. Now, I tell you, there is no lack of forage in this country for 550 colonies any time of the year, but it is the lack of the right strain of bees to go from one to four miles after forage. The right kind of hybrids will do this and keep plenty on hand and to spare as many of ours did this last summer, when there was nothing that you could see that they could get honey from.

There is no use of trying to keep the pure black bee here for they will starve in summer, and the pure Italian will live through the summer all right, and when it comes Fall the queens stop breeding, the workers fill up the brood chambers with honey, and you are but little better off with one race pure than with another, so we are obliged to give our preference to the hybrids, for they will "rustle" in the summer and winter alike. These hair-splitting points about bands, the yellow or the black Italians and the nice spacing of the combs are of no use to us here. We must adopt the bees and the methods to give us the best results, and facilitate rapid manipulation. When we have tons of honey in the apiary waiting to be extracted so the bees can fill the combs again, we can-

not wait to be so *very* nice in spacing the combs in the top boxes. We get seven of them in the upper story the best we can without wasting time, and when we come around again in six or seven days they are full. That is the kind of spacing we do and that is the kind that pays the bee-keeper here the best. If I had but one colony of bees I think I would be very particular with them in spacing their combs, I would bring them to such a state of perfection in breeding that each worker should have at least seven stripes, then I would talk about them and fill the bee journals full of my experience as a bee-keeper, never forgetting to tell the reader that I started in the spring with one colony, took nine pounds of honey and increased to—nothing; and I never will forget to tell the dear reader how I managed those bees in order to get that amount of honey from them. Twaddle! nonsense! yet how much of this we see in the bee papers.

If a man wants to keep bees he has a right to do so, but I say let him make a specialty of it and give his time to it. It is a business worthy to be classed with other professions or trades. Let him place himself and his business upon a footing that shall command the respect of every intelligent man or woman of this progressive age. How senseless it would be for every man to undertake to manufacture everything he might need from a bee hive to a steam engine. What a state of affairs it would be; nothing right or perfect to the extent of being servicable. Is it not the same in bee keeping? The man who puts his money into the business and

gives his whole time and attention to it often has to suffer the humiliation of being scoffed at because so many undertake the business, knowing very little, if anything, about it, and do not or will not learn. They rush into print through the bee journals with their tales of success or failure, the reading of which is enough to drive the idea of bee keeping from almost anyone. So I say, let us be specialists in bee keeping, as well as in other branches of industry or let us not meddle with it at all. Let us take off our hats to the man that makes his business a worthy example to be followed by the rising generation, and lend an attentive ear to what he has to say about the details of his calling, rather than offer suggestions that are not backed up by experience or proven by results to be worth consideration.

In conclusion, for yourselves, I have nothing but good wishes for the success of the journal that you are about to place before the public.

Yours respectfully,

A. W. OSBORN.

Punta Brava, Cuba, W. I., Dec. 4.

We are pleased to hear that friend Osborn is doing so well. It seems that with a few such seasons as the present bids fair to be, he will be able to retire from the business with a snug fortune. He forgot to tell us, however, what price his honey brings in the market.

GENTLEMEN: I send you herewith 50 cents, for which please place me on your subscription list for the AMERICAN BEE-KEEPER. If your journal is to be anything like the quality of your goods I am a life subscriber, for I give you the credit of manufacturing the neatest goods of any one. Surely your road will be "success."

Yours truly,

A. F. BROWN,

Huntington, Fla.

GENTLEMEN.—I am glad to have one of the old journals pass into the control of so well established and reputable a concern as the W. T. Falconer Manfg Co. I would rather see every bee journal free from all connection with the supply business, if we could have just as good journals in every other respect, and in addition have the editorials entirely impartial. But an observation extending through the life time of bee journalism in America shows me that, as a rule, a paper without connection with the supply business has not a very long lease of life.

So a good strong backing gives us promise of greater stability and of greater usefulness. Whatever of evil there may be in having our bee literature connected, to some extent, with the supply business, the evil is not an unmixed one. In these days of low-priced honey, the supply manufacturer is a necessity, for if each of us had to make his own supplies a good many of us would be driven out of the business. If there be an advantage, therefore, to the manufacturer, we are likely to get the benefit of it in better rates on supplies, and a better paper for our money.

Nor are our bee journals lacking in impartiality, as might be supposed. The integrity of the men conducting them, is to some extent, a guarantee of their fairness. As a matter of policy, too, they must give both sides a hearing, for if there is not at least a semblance of this, a paper degenerates into a mere advertising sheet, which would very soon lose all support in the way of subscribers.

Then too, it must be remembered that there is a unity of interests be-

tween the bee-keepers and supply dealers. The latter, to be successful, must study the wants of the former. So it is, that in general, our bee journals offer an open field for all comers, providing they come with anything of real interest to the fraternity.

DR. C. C. MILLER.

Marengo, Ill.

DEAR DOCTOR.—We are glad you take so broad a view of the matter of manufacturers and supply dealers being connected with bee-journalism. Your points are well taken.

Our Extractor.

From Farm and Home.

Look Out for Rats.

JULIUS HOFFMAN.

Unless the hive entrances are arranged so as to keep out mice they will often build nests in them as soon as cold weather begins, thus doing great damage. A good way to prevent this is to tack a piece of stout wire cloth over the entrance, the meshes of which are large enough to allow the bees to pass through freely. When the bees are housed for winter do not neglect to lay some poison in the cellar, or winter repository, to destroy rats and mice. If some porous material is used for covering the brood frames, upward or top ventilation is not needed, either for out or indoor wintering. Entrances should open the whole width for indoor wintering, provided the temperature is kept above freezing. For outdoor wintering the entrances should be contracted to a small opening when exposed to the cold winter blasts and also windbreaks provided. A good deal has been said about sub-ventilation to bee cellars.

I have tried it and with many others have concluded that such ventilation is not needed. I have found that upward ventilation will keep the air pure and also regulate the temperature. The part of the cellar where the stairs enter is partitioned off so that no light can get to the bees when the trap door is open. In cold weather I heat the room above to regulate temperature in the cellar. I try to keep the temperature about 40°. If the cellar is damp the temperature should not go below 50°, and 60° would do no harm. With a dry cellar, however, this temperature would be rather high, unless the bees' winter stores consist of honey which will keep liquid all winter and contains the right proportion of water. If, however, the honey is very thick, or, what is worse, granulated, the bees should have water in some way or they will suffer. This is the reason why I do not like cemented floors for a bee cellar. I want a cellar that has a warm, humid atmosphere so that the honey, by absorbing moisture from the air, will keep in a natural condition. There is no trouble about the honey getting sour in such a cellar as long as strong colonies are wintered or no more combs are left them than they can well cover. These directions for wintering, it should be remembered, are for sections where the winters are not warmer than Central New York.

enterprise to properly set forth the excellencies of his goods must also have the ability to furnish the very best in his line. Careful study and enterprise are constantly improving methods and broadening ideas. The advertisements in a journal, particularly when only those are admitted that will bear the most careful scrutiny, are as interesting to the average reader as any other portion of the paper or magazine. It is well therefore to read and study the advertisements and get catalogues and circulars of those that interest you. By looking over the advertisements one finds just where to get what he wants at the lowest prices.—*Ex.*

For successfully wintering bees we prefer a dry cellar, the temperature of which will not fall below 45 degrees. In no case should the hives be put lower than one foot from the cellar bottom. The entrance should also be left open. When an old bee leaves the cluster to die, it gets to the entrance if possible and drops to the cellar bottom. If the entrance is closed, it sets up a buzzing and the whole colony become restless, finding their place of exit closed, and we have known the whole colony to smother from the resulting heat and excitement. A perfect cellar will winter quite a large number of colonies and but few dead bees will be found upon the cellar bottom, but in a damp cellar and with improper ventilation I have known several bushels of dead bees to be swept up in the Spring.—*Ex.*

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Editorial.

For a long time past we have been frequently urged by many of our bee-keeper friends to establish a bee journal, and for a long time we have contemplated, more or less seriously, the advisability of our doing so. Finally, we have come to a conclusion, and dear reader you have the result before you. The feeling that the field of bee journalism has been very well filled for some time past has been one cause of our hesitation, but having succeeded in purchasing the *Bee Hive*, we feel that we have crowded no one out. It shall be our endeavor to publish a magazine that will rank as one of the very best. Articles from the pens of the best writers on apiculture will appear in each issue, and the subjects presented will be varied so that every reader will find something of interest. There is some objection to a journal being published in connection with the supply business, but it is not our intention to make this journal simply an advertisement of our business. We

shall be strictly impartial on all matters whether of vital interest to us or otherwise, and it is our intention to be as largely international in character as possible. We shall continue running "Our Extractor" department, and will favor our readers with the choicest selections from American and foreign bee journals. To the many subscribers of the *Bee Hive* we wish to say, they will receive this magazine until the full term of their subscription has expired, and we hope they will be so well pleased with the change, that each one will renew their subscription promptly when it expires.

There are a great many bee-keepers of keen intelligence who are very obstinately set against patented bee hives or fixtures. Why this is so we do not understand for certainly a man who evolves a useful idea in regard to bee-keeping appliances should have as much credit for his thought as one who invents a threshing machine or an electric light dynamo. Then why should we not pay him for his invention, and by so doing encourage him and others to think up something of still more value ? Of course, there are many patented appliances that are of very little real value, and the inventors of such get but little compensation, as their sales are meagre. The fact that the article is patented does not necessarily enhance the cost of it, and seldom does, for competition is what makes the price of any article low, and while an article may be patented so that no one can make its counterpart, nevertheless, the manufacturer or dealer, in order to compete with some other similar article of equal

merit, will put its price at the lowest notch. There are very few articles that have a monopoly of their kind.

We hope our friends will send in their subscriptions promptly, as the only way a periodical can thrive is with a fat subscription list. We make a very liberal offer to those getting a club, i. e., 40 cents each for three or more copies to one postoffice.

We have several valuable contributions from well known bee-keepers that had to lay over for the next issue, as we had not the space to print them this month.

We send this month a large number of sample copies to our customers and friends who are not subscribers. Of each who receives a copy we ask your subscription.

Having the largest factory of the kind in the country, we are in a position to keep our readers well informed on all latest methods and improvements in bee-keeping.

Our thanks are due to Jacob T. Timpe for a list of names of bee-keepers in his vicinity. We hope that all our friends will send us as many names as possible, so that we can send them sample copies, and possibly induce them to subscribe.

Items of personal experience are always acceptable from our friends.

The first edition of our Annual Catalogue and Price List for 1891 will be mailed about Jan. 20th. Should you fail to receive a copy within a week from that time, write for one.

Always write articles for publication on a separate sheet, as it saves us much time and trouble in picking out the parts we desire.

We will not make any gilded promises for the future, but prefer to surprise you occasionally.

Begin your subscription *now* with the first number, so you will have a complete file.

Every bee-keeper should subscribe for one or more "Bee Papers," so as to keep posted on the advance of bee culture.

As this is the only bee journal in the Empire State we hope every York State bee-keeper will subscribe. If you will give us liberal support we promise you our best efforts.

The *Bee-Keeper's Review* has been enlarged and a tastily designed cover added. We always thought Friend Hutchinson had *one* of the neatest and best bee journals out, but this last stroke of enterprise places the *Review* ahead of all,—it is *the* best. The subscription price has also been raised to \$1.00 a year. We club it with this magazine for \$1.35 for both.

We wish to call our readers attention to the paragraph at the top of our advertising pages. Do not fail to mention this paper when you send your next order for goods to any of our advertisers. No matter if you are a regular customer, it will entitle you to a special discount on that order.

The Hoffman frame is becoming quite popular in many localities in the east.

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Asks its friends to fill up this blank, and forward it to us as soon as possible. We want to get some sample copies of our journal in the hands of those who are not familiar with it, but who may be induced to take it. Simply give us the names and postoffice addresses of your neighboring bee-keepers.

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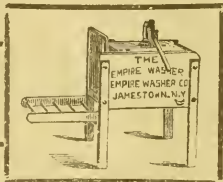
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VOL. I.

FEBRUARY, 1891.

NO. 2.

Management of Bees in Winter.

BY C. J. ROBINSON.

The problem of safe wintering in high, cold regions, is not yet solved, and the subject is still one of much importance to bee keepers in rigorously cold climates. The condition and perfection of colonies during winter, and of the brood comb and young brood during Spring determines the success and profits of the owner.

With bee-keepers the ever recurring problem, how may bees be kept during winter's reign in their most perfect condition, is still a theme of reflection and discussion.

Thanks are not due to the thousands of writers who have theorized on the subject, without the knowledge of scientific principles, but we owe a debt of gratitude to those who, by their researches and laborous experiments, have, in some measure, dispelled the darkness that years ago shrouded the winter problem. Theory, unless based upon correct principles, cannot be taken as an exposition of scientific truths.

The predominant thought among theorists, who go it hit and miss, is that of *ventilation*. Fresh air is the salvation vouchsafed to bees during

their confinement by stress of weather. This one idea, it seems, takes possession of bee-keepers, with but few exceptions. Those who write gushingly about ventilation constitute themselves learned physiologists, and attempt to theorize by likening bees physically to mammals; such reasoning cannot bring forth light. A constant current or change of air is not essential for the support of life in tad-poles and fish, nor do hibernating creatures, including bees, require supplies of air, as do animals that feed on air for a supply of oxygen.

Bees, like tropical plants cannot abide in, and endure a low temperature, except by clustering, and they cannot exist while clustering a long time, unless amply protected against rigorous cold. Bees, as well as man, had an Eden home in the beginning. Science and art renders most of the habitable globe a possible Eden for man, but the case is different with bees—as differently as are bees from mankind; yet science and art have achieved great victories over the vicissitudes of climates, and the busy bee, as well as animals, are provided for against winter's cold in most all lands.

Individually, bees cannot endure a

temperature as low as 40°, but if clustered in large numbers, bees are able to endure any degree of cold for a short time. It is only by reason of this provision (clustering) of nature, that it is possible to keep bees in cold climates.

It is the number or weight of bees in a hive, that affords a clue to the strength of a colony. The *size* of a cluster gives no idea of the number of bees, because of the variableness of the density of the clusters under different circumstances.

If a cluster of more than the average number is situated in a temperature of 32° and a small cluster is situated in the same temperature the large colony will be in a very different condition, and neither cluster would behave the same as the other. The small cluster would not be as safe, considering the temperature, as it would if equal in number, compared with the large colony.

Indeed, if two colonies, one very large and one very small, be both situated in Winter quarters in a certain degree of temperature, which might not be the most congenial to either, both would suffer more or less because the temperature ranged too high for the large colony, or too low for the safest condition of the small colony.

Much has appeared in the bee periodicals, concerning the most proper temperature to be maintained, in special repositories, in which bees are kept in Winter. Writers on the subject disagree. By some it is mentioned that near 60° is the proper limit, while others mention 30° the best. No bee-keeper classes his colonies, but puts both great and small in side by side, seemingly without a thought of

any difference of the size of the colonies. Occasionally we read some ones report which reads about this way: "I put one hundred colonies (great and small) into my cellar, and I took out sixty in the Spring. Several of the colonies, small when put in, but these did the best in wintering and were the most vigorous all the season." What was the temperature of that cellar during Winter? Over 50°. The answer explains why the small colonies did the best.

I have handled bees more than half a century, running back into the small thirties, and I am cognizant of the progress of bee culture ever since it began to take rise in North America, and I know the death rate of bees in Winter now, and including three decades, is greater than it was fifty or more years ago. I attribute the larger rating of casualties to the change from the old style of hives and the meddling with colonies, to beat them out of their honey, besides the practice in former times was to "take up" all colonies, both old and young, that upon examination was not strong in numbers and plentifully supplied with stores.

I have practiced wintering bees by about all the methods known, so far as I know. I was with the lamented Moses Quinby, the first who resorted to protecting bees in Winter by putting them in the cellar. I only risked, at first, putting in small colonies, such as I feared would not pull through on their Summer stands.

There is still a conflict of opinion as to the most practical mode of wintering bees. Many have recorded their say, now I submit my say. The facts

are: In cases where large colonies have had a prolific queen through the latter part of the season and abundant stores, they will winter every time on Summer stands more safely, taking the seasons in succession, than in situations specially prepared elsewhere. I prefer to Winter large colonies on Summer stands; the more protection given them the better, because the better they are protected the less stores they consume, and the less wear and tear there is on their vital organisms, and the bees are younger, comparatively, in the Spring when they are called upon for duty. There are different styles or hives that afford protection, viz: Chaff and air-tight double walls, besides other fixings. I like both kinds, but prefer the double wall filled with still air.

DO SMALL COLONIES WINTER BEST?

In 1870-71, J. W. Hosmer, a queen breeder, tried wintering small colonies, about a quart of bees, in order to get as many queens through as he could. He found that when colonies are wintered in a warm place it is not necessary to have a large number of bees in it; a quart, he said, is amply sufficient for the safety of any queen. If the bees are well stocked with stores and kept comfortably warm they rear brood abundantly toward Spring and come out of their Winter quarters prosperous and in much better order than if they had been stronger in numbers in the Fall.

The theory is that the old bees that have consumed honey all the Winter die soon after they fly in the Spring, and have grown older, while younger bees have a lease of life before them and form a more vigorous force for rearing brood, which is about all that

has to be done the first few weeks in Spring.

Mr. Hosmer said he always divided up his colonies in the Fall, so that only about one quart occupied each hive. He went so far as to say he would reduce the numbers of all colonies even if he had to kill the bees rather than Winter large stocks. This is contrary to the idea common among bee-keepers, but the time has gone by when we can afford to reject a theory, because it is new, or hold to any way of practice, simply because it is the old way. "Prove all things." Mr. Hosmer proved the practice of reducing colonies in the Fall to one quart; they wintered as safely and successfully as any large colonies, and as he claimed, more so. Certainly he held the lead in the queen industry and in the production of honey. Let those who try this remember that colonies after being reduced, must be put where frost cannot reach them; either bury them, put them in cellars kept far above freezing point, or in warm rooms.

ABOUT VENTILATION IN WINTER.

When bees are compelled to warm a larger amount of space than is necessary for their due amount of stores and brood comb, they are liable to get seriously chilled. One of the most prolific causes of death among bees is want of healthful animal heat. Animal warmth in cold winter weather is as necessary to preserve the health and lives of the old bees, as it is in Summer to preserve the young.

In order to protect bees, so they may be in a genial home both top and bottom, ventilation should be a thing of the past. I venture to assert that not one of the great many writers who have counseled in the matter, claim-

ing salvation through ventilation, have had a bit of practical knowledge in wintering either with or without ventilation. Such counselors are a curse to those who disregard the teaching of the inspired,—“prove all things.”

Some years ago the Great West produced a Messiah—“sub-earth.” I ridicule the sub-earth craze, which equalled the excitement of the Indians over their Messiah, and fooling with sub-earth fixings was equally as ridiculous in point of fact as the ghost dances.

Richford, N. Y.

Moving Bees to Secure a Fall Flow of Honey.

BY A. N. DRAPER.

In this locality experience proves that almost all the locations that are most favorable for a flow of white clover honey are almost worthless for a crop of Fall honey and *vice versa*.

Our Fall flow begins here about the 15th to the 20th of August. The best Fall flow is on the low, marshy bottom lands, and the best white clover flow is on the hills back from the river. There is no reason why the apiarist should not secure the advantage of both the hills and the low lands, for it is a fact, beyond doubt, that a colony of bees, properly attended to, is in better condition for the white clover crop by having been moved to where it could secure a heavy Fall crop of honey the previous Fall.

The hives should be so constructed that the movable frames are readily made immovable or fixed. The bottom board must be so secured that no bee can escape. The hive should be chock-full of both bees and brood. If

your hives are not strong and full of bees it will not pay to move them in order to obtain a full crop.

This season I began to move about the 20th of August. I shall begin in July next season.

I have tried a good many different ways of giving the necessary ventilation, but I never have tried anything in the shape of a ventilator that answers the purpose so well as the one invented by Mr. J. M. Hambaugh, of Spring, Ills., and in addition to this, it is very cheap and simple. It is simply a rim without top or bottom, exactly the size of the brood chamber, with a depth of from two to three inches. In the center of each of the four pieces a slot is cut from 8 to 10 inches long and one inch wide; over these slots wire cloth is tacked on the inside of the rim.

All of Mr. Hambaugh's hives and ventilators are made with a “ship-lap” at the joints of the brood chamber and supers or ventilators, or, in other words, the joints are so rabbeted as to fit. The bees, as soon as they begin to be jostled about, unable to leave the hive, ascend to the roof and cluster therein. This ventilator then gives a nice draft of fresh air above the brood frames right under the cluster, just where we want it, as the bees almost to a bee desert the brood.

Now I expect to move several hundred hives this next summer. I shall use three teams. The wagons will have hay racks on, with the side rails 8 inches wide and 16 feet long. I will use four cross pieces on top of the rails, then lay my floor on the cross pieces. Now the wagon is backed right into the apiary by hand. Two men set the bees on the wagon, while

a third man places them with the alighting board to one side and the back end of the hive to the center of the wagon. This gives us two rows of hives the entire length of the wagon. With the ordinary 8 frame, Simplicity, this would accommodate 20 hives. Now I would place 10 more on top. I place an ordinary fence board, 16 feet long, on top of each of the lower rows to hold the upper hives from slipping off, then place a rope around the lower and upper hives, loosely, then on each side place a stout stick in the rope and twist it up until every hive is snug and tight and fastened there. This rope should be examined occasionally during the trip, and if it works loose it should be re-tightened. Now hitch our team to a chain 12 feet long, the other end of the chain is hooked to the tongue. We now proceed to pull our load out of the apiary and out into the road and load the next wagon. I used three wagons this season.

In this way the drivers help each other to load and unload. I aim to get everything ready and get started by 9 or 10 P. M., so as to arrive at our destination just before day-break, when the hives can be set off of the wagon and arranged without trouble of the bees stinging the horses. We frequently want to leave an out-apiary with a load of honey in the day time, when the bees would be troublesome if the horses were hitched directly to the wagon. To obviate this we use a rope about 40 feet long and hitch our team to the end of the rope, then to the chain and hook the chain to the end of the tongue, thus removing our team about 60 feet from the bees.

The bees will gradually desert the wagon-load of honey, and when we get off 300 or 400 yards from the apiary the horses can be hitched direct to the wagon without danger of stings.

If it is Spanish-needle honey you intend to extract, get right at it and get it out as soon as gathered, as it is already ripened. See that there is plenty of water handy for the bees, when moving to a new location, and if any of the neighbors have water out for the stock, take along a bottle of crude carbolic acid and with a brush paint with the acid the inside of the watering trough. This will prevent the bees bothering them. We use no springs on the wagon, but drive slow and carefully.

We prefer to move at night for several reasons. First, there is a good deal less danger of the horses getting stung. Second, it is cooler. Third, the bees are all at home. Fourth, the wagon can be backed right in among the hives and they don't have to be carried far by hand. Fifth, the roads are deserted, no one asks you, "Have you got bees in all them hives?" or "What be you going to do with all them bees?"

The sooner the bees are got back to the hills or to their Spring quarters the better, after the Fall crop is over, although I try to pick on moonlight nights to move.

Upper Alton, Ills.

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A Dark Subject.

BY E. E. HASTY.

It is a melancholy fact that not all honey is of pearly whiteness. Some of it is dark. Success in bee-keeping demands that we shall be able to meet this unpleasant fact, and get along with it somehow. The premiums are all awarded to white honey. We talk about the white honey. The articles in our journals are about the white honey. The inquiry of the market is the same, for No. 1 white honey. And as to the honey that isn't No. 1 white, why, that's a very dark subject indeed.

Now, in the first place, it is neither necessary nor reasonable that dark grades of honey should be entirely ignored at our exhibitions. Some dark honey is of very excellent flavor indeed. When a number of premiums are offered, at least one ought to be for the best dark honey—flavor to rule. In this we shall be familiarizing the public with the fact that honey may be worth buying and eating, even if it is not white. Our present course amounts to scratching out our own eyes. It is teaching the public that nothing is worth considering as honey unless it is very light in color—a lesson troublesome to ourselves, and untrue as well as troublesome. If we are to have exhibitions and premiums let them be of such a character as to enlighten the dark subject a little, instead of making the darkness denser.

For another thing honey that is really poor in quality and off in flavor had better not be sold for eating purposes at any price. No matter how honestly the real quality of the article is explained to the buyer it is killing off customers to sell such. People who eat poor honey will soon cease to

eat honey altogether. I have been in the habit, to some extent, of giving away inferior honey to poor people who would be unlikely to buy. I have pretty nearly come to the conclusion to quit it. Not that I have grown more stingy with age, but that it isn't fair to bring up the children that abound in these families in the belief that honey is rather poor stuff, and molasses a good deal better. If a man can float his poor article off upon the general market possibly we may find it hard to reach his conscience, and make him feel that he ought to stop those kind of sales; but if he sells direct to customers I think that with a little effort he can be made to see the point. Really what is wise for one little corner of the market is wise for the whole market.

When honey is ill-flavored it is not imperative that we should know whether it is ordinary floral honey or insect honey. There is plenty of poor stuff of both kinds. Practically, I do not think we can always tell with certainty unless we spend an unreasonable amount of time tramping over the country to see where our bees are at work each day. And what's the use of hunting for a hole in your stocking when you know you can't mend it if you find one? And, moreover, much evidence has accumulated that some insect honey is of very good quality. Let good be good, and bad be bad, upon its own merits. By the way, we are still in need of a proper term for insect honey. "Bug-juice" had a great run, but was finally ruled out and squelched as disgusting and injurious. The common use of such a term was making the public "skit-

tish" about all honey. But I for one can never have any peace of mind in using the term "honey-dew." I love the truth too well. It certainly is not dew; and giving a specially exalted term to that which is usually inferior is not candid. If we must use "whoppers" better have them big enough to be readily recognized as such. I would suggest the more fastidious term of "angel-sweat." To come 'round to facts, the aphid is not so very bad a looking little creature; and the secretion of his nectar gland is not to be condemned on account of its origin any more than the secretion of the cow's lacteal gland is to be condemned on account of its origin. Let good be good and bad be bad. There are some et-ceteras of this corner of the subject that seem a little melodorous; but possibly we have heard them worse than they are.

When we hear a great ado about dark and poor extracted honey, I think we should remember that there is one fruitful cause that is apt to be overlooked. By all means let those who ship No. 3 honey and mark it No. 1 be duly hauled over the coals; *but if the buyer has put the can over the coals, and spoiled the honey*, after the producer did his duty honestly, it is rather a hard fate for the producer to have to bear the blame. A good deal of earnest missionary work seems to be needed, not only among buyers but among bee-keepers also, before the danger of spoiling the honey in melting it will be one-half comprehended as it ought. Nearly every one seems to think that so long as honey does not boil it of course can not burn. That is an awful mistake. Or perhaps

we should concede that it cannot *burn* before boiling; but as it *can* without boiling be spoiled both in color and taste, the fact that it is not "burnt" is rather poor comfort. The square, tin cans are altogether too handy to set on the stove. On that account the wooden packages are much safer for the honey's good name. I have found in my own experience that even a five pound pail of honey set on a stove, where it would be nearly impossible to boil it if one tried to do so, will, nevertheless, manage somehow to darken in color and have its flavor decidedly changed for the worse. Let us consider the state of things when a large can is set on a stove. What is the temperature of the iron under the can? Perhaps 250° or 300°. The under side of the tin speedily rises to nearly the same, and the upper side to over 212°. In contact with this high temperature the honey remains about as long as it can without boiling. It then springs off, and gives place to another film of the same, which in turn is heated to about 210° and sent off. If the whole contents of the can were fluid and warm, regular currents might set in which would modify things and prevent over-heating. But the bulk of the honey is solid and cold and cannot flow back and forth. It is plain that a considerable part of the honey in a can (if not all of it) may be subjected peace-meal to the temperature of 210°, while the mass is not at any time much over blood-warm. It is very unsafe to heat honey to 210°. There seems to be a very great difference in the amount of heat different samples of honey will stand. Some honey can be boiled vigorously with but a moderate degree of damage to

its quality, while other samples are ruined without coming to a boil. I am inclined to think that every can of honey ought to go out to its destiny with a plainly printed warning stuck upon it, and a very emphatically worded one too, ending up with, "Sample this honey before you heat it, or I will not be responsible for its quality. BILLY FAIRPLAY."

Some good authorities, notably Mr. C. F. Muth, incline to rule out all dark comb honey as a thing which ought not to be produced or put on the market. From the wholesale merchant's point of view this may be good sense, in fact as the public mind and market are just now I am well aware it is so, but such an arbitrary and damaging decision should by no means be accepted as a finality. I sell directly to consumers, and not half of my crop of honey is No. 1 white, yet with a moderate concession in price dark comb honey moves off with little more difficulty than the whitest. "Be frank with your neighbor," and "cultivate your local market," are the paths which lead out of this "Darkest Africa" of our vocation.

As for the honey that is too poor to be eaten at all, it would be a rather risky business to stock the bees up for Winter with it. To feed it to them when Spring opens out nicely, or during a temporary famine just after apple bloom, seems to be the proper thing to do.

Richards, Ohio.

The *Bee World* and *Queen Bee* are two new publications, the former published by W. S. Vanduff, Waynesburgh, Pa., and the latter by F. L. Pratt, Beverly, Mass. Both are of neat appearance and contain much valuable information.

The Wood-Zinc Queen Excluder.—How to Construct and use it.

BY DR. G. L. TINKER.

The frame-work is best made of $\frac{1}{2}$ inch stuff, which I prefer dovetailed at the corners and rabbeted on the inner edges to receive the slats, which should be $\frac{7}{8}$ wide and 3-16 thick. The edges of the slats are grooved with a thin saw, No. 24 guage, to receive the strips of two-rowed zinc which alone should be used. One-rowed zinc has been used to a large extent, but it is objectionable for the reason that it obstructs the proper ventilation of the supers and results in slow ripening of the stores. The only perfect and altogether satisfactory queen excluder is made up with two-rowed zinc strips $\frac{3}{4}$ of an inch wide. The best wood to make them of is the yellow poplar, often called whitewood, and the slats should be nailed with $\frac{1}{2}$ inch wire brads, No. 19 guage. Made as above described an expert hand will make up 50 of them in 10 hours.

The slats should be nailed to the frame-work so as to come over the top bars of the brood frames and the zinc over the spaces between the frames of comb, thus making continuous passage-ways. I consider these excluders, made up on the break-joint principle, as highly objectionable, without a single point to recommend them. I reached this conclusion some three years ago, and every fact since developed has confirmed the superior value of the continuous passage-way queen excluder.

I have already intimated that few bee-keepers as yet know how to use the queen excluder in the production of comb honey. As heretofore used

the uniform testimony has been that they are stuck from end to end, a solid mass of burr-combs and honey on the under side, attached to the tops of the brood frames, making an examination of the brood nest anything but a pleasant task, and the cleaning up of the queen excluder a still more disagreeable task.

Now all this bother is done away by my new system of management and the use of the continuous passage-way queen-excluder.

THE PREVENTION OF BURR-COMBS.

All comb-building by the instinct of the bees is an extension of the brood combs outward and upward from their brood. Hence we find the first evidences of a readiness to enter the supers in a deposit of new wax along the upper edges of the brood combs. If we now put on an empty super the bees extend their first comb-building in bridges to the super, which we call burr-combs. If now the top bars be cleaned of all wax and the queen excluder adjusted, and we put on a super of empty combs, no burr-combs will be built from the brood frames to the queen excluder, or at the most but very few.

Often the queen excluder can be left on the whole season without a single burr-comb attached to it if the bees have plenty of storing room above. Again, if at the beginning of a honey flow we take an empty story with foundation starters in the frames and put on the excluder, then a super of sections for storing and the brood chamber of any colony ready to work in the sections on top of all, we shall have no burr-combs attached to the excluder and generally no swarming from that colony. The queen of course is to be

put below the excluder in the new story. This practice has given most extraordinary yields of comb honey.

Now some one will say that the sections will be so badly travel-stained by this practice as to be unsalable. Well, if the brood combs are old and black we prevent this by putting between the sections and the brood a

BROOD BOARD,

(So called because a part or all of the brood is placed upon it.) This board is made like the queen excluder, except that it is made solid so that the bees cannot get through it except a piece of two-rowed zinc placed in the whole length of one side. Thus arranged the bees cannot travel stain the combs in the sections except at the outside of the 4 combs on the side of the super beneath the two-rowed zinc. We may, however, compel the bees to go down through a short strip of two-rowed zinc placed at each end, with a blank piece in the middle, so only the two sections at the corners of the super will be soiled. The brood board may be made without the zinc, but in this case the drones will follow the bees down into the super and are stopped by the excluder and many of them will die there. This is remedied by the single strip of two-rowed zinc in the brood board and a $\frac{3}{4}$ auger hole in the front end of the brood chamber near the lower edge. Queen cells will be started in the brood chamber and the young queen that hatches will fly out at the auger hole and mate and return to the auger hole, notwithstanding the flying bees at the entrance below to attract her there. This is one of the exceptions where queens are allowed to mate from upper stories where a good laying queen is in the lower story.

However, if the brood board is removed, the young queens so hatched are usually balled and killed on their first attempt to fly out. As a rule but two or three queen cells are started and if we do not want them to hatch we may cut them out nine days after the queen is put in the lower story. It should be remembered that the above method of procedure should only be practiced at the beginning of or during a honey flow. If done at any other time no combs will be built in the lower story, and so the queen will have no opportunity to lay. In this case if we leave off the brood board the young queen that hatches in the upper story will be allowed to mate, but this occurs only when the queen below has laid no eggs, being unable to do so for want of combs to lay in. It is only when the lower queen has brood that the young queen above the excluder will be killed.

(Continued in March Number.)

Improvement in Bee Culture.

BY G. W. DAMAREE.

When speaking of modern progress attained in the art of bee-keeping, the average bee-keeper is nearly sure to revert to *hive* and *implement improvement* as the maximum thought in the premises. This, I think, is a mistake, and is well-nigh universal. That a reasonable portion of time and brain should be applied to this end will be conceded without argument. But to lend every energy in this direction I think is a grave if not a fatal mistake.

When we investigate the matter we learn that bee-keepers are succeeding equally well with the many different sorts and makes of hives. This fact alone indicates that good management and adaptability to the bee business

over-tops everything pertaining to honey producing, unless we except those factors over which we have no control, such as excessive rain, drouth and consequent lack of honey producing flora.

The honey producer should be able to fix the very day his bees will begin to gather the surplus crop, and if his bees are not strong enough to do the work he should make them ready by doubling or even thrifling them if necessary. Of course if the object is increase of colonies the apiarist may elect to give up his prospective surplus for increase of bees, and will spend a part or all of his prospective gains in building up his apiary. But when a good season is on I doubt if it ever pays a man to dispose of it in this way. The production of a large crop of honey; as we have learned by our experience of years, is not a uniformly sure thing, and the safest way is to take it when it does come.

In my own locality there has been a decade of inferior honey seasons and during that time I reduced the number of colonies in my apiary, and when the past season promised to be an extra good one I was tempted to increase my colonies, but when the time came I resolutely set about the necessary work of making all my colonies ready for the harvest. Over 25 of my colonies were worked in the *double* form by hiving the swarms in prepared brood chambers, under perforated zinc excluders. The brood combs in a super, with the surplus cases on it, were worked on the queen excluder; this required tall tiering, but the big double colonies filled them full and my yield of surplus was a gratifying

success. My bees have never paid me so well as they did the past season. I increased my apiary to some extent in the usual way of hiving swarms, but these gave me a very light profit when compared with the double colonies. There is really no *limit* to the manipulation of bees. I have obtained enormous yields of surplus from single colonies by the following manipulation: When a swarm issues remove all the brood combs from the brood chamber and fill it with empty combs, graft a sealed queen cell into one of the empty combs—a comb that contains some honey is preferable,—now adjust a perforated zinc queen excluder on the brood chamber, put all the combs of brood without disturbing any of the queen cells that may be in process of building, in a super and adjust the super on the queen excluder. The surplus cases are tiered on the super after the tiering-up fashion. The swarm is now hived in the prepared brood chamber under the queen excluder, first taking their queen entirely away from them. The queen may be killed or used to start nuclei, or you may sell her if she is a good queen. When the swarm is hived in this way the bees act precisely as they do when they loose their queen in an attempt to swarm and return to the parent hive. They simply settle down to work and wait for the young brood of queens to hatch, indulging in glorious expectation of a dead set at swarming. But as they have but one queen cell in the brood department this soon hatches and as the royal Miss has no rival below the excluder, she is mated in due time and all the desires of the colony is realized. The first queen that hatches above the ex-

cluder will destroy all the cells and she will be balled and destroyed by the bees, as she has no way to escape from her prison. A colony managed in this way is positively done swarming for the season, and it has strength to gather an enormous yield of surplus. And the fact that the bees have some respite from brood rearing till the young queen is ready to lay eggs gives the colony additional advantages in way of bending all their energies toward storing surplus. This is what I call my “queenless system.” It will be seen that my plan of working a double colony through the honey harvest, and single at all other times, is squarely antipodal to the “contraction system.”

I will put it against any other plan to prevent increase and to secure a paying crop of surplus. When practicing my *double colony* plan, the queen may be hived with the bees, if she is young and vigorous, but if she is old and weak from any cause, further swarming may be expected. When practicing this plan the wings of the queen should be clipped so as to readily secure the queen when a swarm issues. The clipping is done in the early Spring. This plan is particularly adapted to the production of both comb and extracted honey at the same time. I do not think it advisable for any apiarist to attempt to produce either comb or the extracted article alone. It is injurious to the market interest to do so. If all beekeepers have not learned, they will find it out, that some seasons it is nearly impossible to obtain a paying crop of comb honey, when by means of good, empty combs, honey can be taken with the extractor in

paying quantities. Hence the necessity of cultivating a market for clear honey. I want to emphasize the fact that the apiarist, to make a success of his business, must be able to plan everything in accordance with the varying seasons, condition of his colonies, and every and all things pertaining to the production of honey. Without particular attention to these matters honey producing is an uncertain business.

My apiary the past season paid me nearly, if not quite, \$200.00 a month for my labor. I know of no rural pursuit that pays so well for manual labor, but it requires skilled labor, and a high quality of tact in management. Being a skilled manipulator of bees is not enough to insure success, you must be a skilled manager also. There is a peculiarity that attaches more adhesively to this pursuit than to any other business pertaining to food production, and that is the question of strict honesty. The trade will bear adulteration in everything but honey. Honey must be the pure nectar, finished to perfection by the bees themselves. Hence those apiarists who dabble with artificially evaporated honey, and sugar feeding, will and ought to come to grief.

Christiansburg, Ky.

Dr. Peter Collier, director of the New York Agricultural Experiment Station, believes that hard times for farmers are almost at an end and that soon they will become the most prosperous class in the land. He says: "At the risk of being thought optimistic, I wish to be placed on record as predicting that, to the best of my knowledge and belief, we are about entering upon an era of agricultural prosperity the like of which we have never known, and which prosperity will be permanent."

The American Bee-Keeper,

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JAMESTOWN, N. Y.

(Publication Office, FALCONER, N. Y.)

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EDITORIAL.

We have been somewhat at a loss to decide what course to pursue in regard to expired subscriptions, as there are many objections to stopping the magazine immediately upon the expiration of time paid for; and, on the contrary, there are many reasons, also, why it should be stopped. Taking all things into consideration we have concluded to adopt the following plan: Every subscriber is notified of the expiration of his subscription by a blue pencil mark upon one of the paragraphs at the head of the first editorial column. If he does not let us hear from him before the next number is mailed, he will find the other paragraph marked notifying him that his subscription expired the previous month. If no response is made to this we will continue sending the magazine to him for six months, when a notice will be given him, after which, no response being received, the magazine will be discontinued.

Our Canadian friends are sorely troubled over foul brood. About all the *Canadian Bee Journal* contains of late are articles on the subject.

Henry Alley issued a souvenir number of the *Apiculturist* last month, which was very nicely gotten up, and contains more good reading matter than for several months previous.

There seems to be a wide difference of opinion among bee keepers as to the amount of stores needed to safely winter a swarm of bees. Mr. Doolittle writes at some length in *Gleanings*, (Jan. 1st). His final conclusion is that 15 to 20 pounds of honey is all that is required to winter an average colony from Oct. 1st to May 1st. This would be for in-door wintering. For out-door wintering about 5 pounds more would be required.

The *American Bee Journal* begins the New Year with a new dress and entire change of form, and now has 32 double column pages each issue. The change is very much for the better, and makes the old *A. B. J.* more attractive than ever, which is saying a good deal. "May it live long and prosper."

Should any of our subscribers fail to receive their magazine, we wish they would advise us on a postal card, and we will send them the missing number.

We recently enjoyed a two day's visit from Mr. J. T. Calvert, A. I. Root's son-in law, and superintendent of Mr. Root's immense establishment. Mr. Calvert is a very pleasant and unpretentious gentleman, thoroughly wide awake to the progressive requirements of a business man of today, and one whom it is a real pleasure to meet. We were much pleased to have him with us. How pleasant it is to find the representatives of two great establishments, competitors in trade, on such friendly terms. Unfortunately it is rarely found to be the case.

Our space is so taken up this month with other matter that we are not able to advertise our own goods at all. This won't do, our readers will forget that we manufacture and deal in all kinds of bee supplies.

Any one wishing to purchase a few swarms of black bees is referred to the advertisement of C. A. Stillman, which will be found in another column.

Dewey's Peet Cage and Petrie's Swarm Hiver will be illustrated in our next issue.

Well, friends, our little journal has met with a most pleasant and welcome reception on all sides. We have received innumerable words of praise and encouragement, and the subscriptions and advertisements have been pouring in on us at a rate far beyond our most sanguine expectations. We thank you sincerely for your words of kindness, your many lists of names for sample copies, and your subscriptions and advertisements. Our columns are so crowded this month that we were compelled to leave out several splendid articles, besides over a page of advertising. Now you cannot afford to loose the former nor we the latter, so the only alternative seems to be for us to enlarge. Well, if you will "keep it up," friends, we promise you to do so soon. By the way, several of our advertisers write us that they are getting more replies to their ad's in the BEE-KEEPER than from any other source.

We expected to have gotten out the first edition of our Annual Catalogue several days ago, but owing to our thoroughly revising and enlarging it there has been some delay. It is now in the hands of the printers and will be mailed in a few days. If you do not receive one apply for one on a postal card.

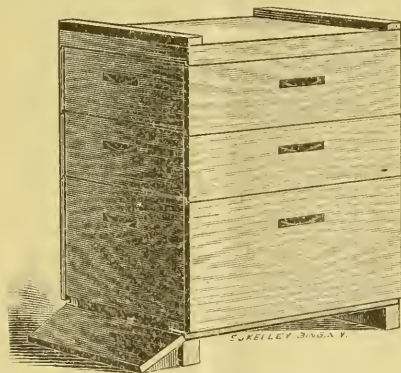
Jacob T. Timpe, of Grand Ledge, Mich., offers to give a years subscription and 5 eyes of his new seedling potatoes to all who will send him 60c to pay for this magazine and postage, etc., on the potatoe eyes. With it he will also give you a chance on his nuclei for largest potatoe, and also chance on nuclei for naming that variety. See his advt. in another column.

The *Bee-Keepers' Advance* has not been issued since Nov., and has doubtless ceased to exist. We have been endeavoring to purchase the subscription list from the owners and fully expected to have been able to announce the consummation of the purchase this month, as we accepted the proposition made us by the publishers of that magazine some days ago, but for some unknown reason they have not yet forwarded the list, and possibly they will fail to do so. However, in case we receive it, the former subscribers to the *Advance* will receive the BEE-KEEPER from now until the expiration of their subscriptions.

We mail several hundred copies of this issue of the BEE-KEEPER to the bee-keepers in New England so they can read the description of the R. I. Nellis Hive. We hope each one who receives a sample copy will subscribe, and also remember that we can furnish the hives in any quantity at lowest prices.

The Rhode Island Nellis Hive.

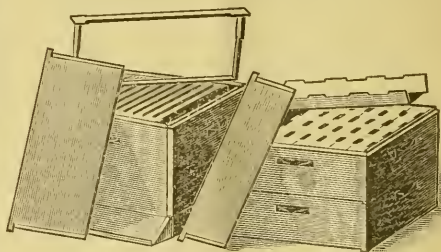
Several years ago we illustrated and priced in our Catalogue the VanDusen-Nellis hive. The demand was somewhat limited, and we soon discontinued offering them for sale, and have for a long time only made them when ordered. This style of hive has been in use quite extensively right along, however, in many parts of the New England States and elsewhere, and Mr. Sam'l Cushman sometime since made some improvements on it and adopted it in the Rhode Island Experimental Station, where it gives the best of satisfaction. He has given it the name of the Rhode Island-Nellis hive, and on account of its popularity and really superior merits we have placed it in our '91 Catalogue. It is very simple, has no mitre joints, can be tiered up any desired height, is perfectly tight, has entrance at both ends so that two colonies can be kept in one hive simply by using division boards and the entrance can be made any size



without trouble. It is described in detail as follows: The ends are $14\frac{3}{4}$ in. long, $9\frac{3}{8}$ in. wide and $1\frac{7}{8}$ in. thick. These have hand holes and are rabbeted 9-16 in. deep and $\frac{3}{8}$ in. wide along the upper inner edge and take a metal rabbet. The sides are $20\frac{1}{4}$ in. long, $9\frac{3}{8}$ in. wide by $\frac{7}{8}$ in. thick, and are rabbeted $\frac{1}{4}$ in. deep and 29-64 in. wide on outside of top edge and on inside of bottom edge, so that one will fit perfectly on another. The ends are rabbeted out $\frac{1}{4} \times \frac{7}{8}$ in. thus allowing the corners to be

cross-nailed, which greatly strengthens the hive. The edges are all even at the top. The bottom board is $20\frac{1}{4}$ in. long, $15\frac{1}{8}$ in. wide by $\frac{3}{8}$ in. thick, made of two pieces. These are nailed at the ends to two cleats $15\frac{1}{8}$ in. long, $1\frac{7}{8}$ in. wide by $1\frac{3}{8}$ in. thick. To prevent the hive from sliding off strips $\frac{1}{4} \times 7-16 \times 20\frac{1}{4}$ in. are nailed to the bottom board, so that the rabbets in lower edge of sides will fit on them. This gives an entrance at each end $\frac{1}{4}$ in. deep and $14\frac{1}{4}$ in. long. This can be made any desired size or altogether closed by strips $\frac{1}{4} \times \frac{7}{8}$ in. and of length to suit the size of entrance desired. In hot weather an entrance at each end is of great comfort to strong colonies.

The surplus case is made just like the brood chamber above described, excepting that the ends are only 5 1-16 in. wide, and the sides 5 1-16 in. wide. The ends have a rabbet $\frac{1}{4}$ in. deep and $\frac{3}{8}$ in. wide, upon which the wide frame rest. As these are not handled as much as the brood frames, metal rabbets are unnecessary.



The style of section holder can be seen in the illustration. There are seven, each holding 4 $4\frac{1}{4} \times 4\frac{1}{4} \times 1$ 15-16 boxes. It is preferable to use a half depth body like this for surplus honey, as colonies are then able to occupy all the space and retain their warmth and energy, and it is better to give bees no more room than they can occupy, and then when the combs are well under way elevate these boxes and place an empty set under them, as the boxes will be quickly filled, in order the better to get to the ones already started. Two of these surplus cases can be fastened together and used as a brood chamber.

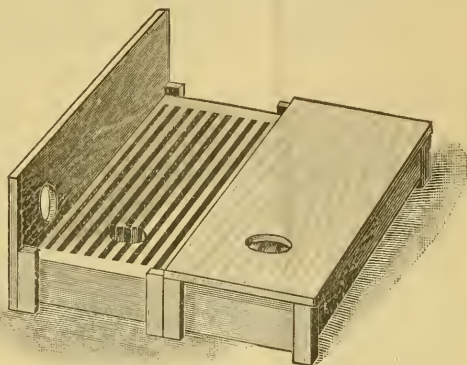
The cover consists of two boards $20\frac{1}{4}$ in. long, 8 wide and $\frac{7}{8}$ thick, tongued and grooved together with a cleat on each end 16 in. long, $1\frac{1}{4}$ in. wide by $\frac{3}{4}$ thick. On the under side at each end is a piece $14\frac{3}{4} \times 7\frac{1}{8} \times \frac{3}{8}$. Beneath on each side is a piece $20\frac{1}{4} \times 7\frac{1}{8} \times \frac{3}{8}$, rabbeted on inner edge to fit rabbet on body. This cover fits snugly over the hive and leaves $\frac{3}{8}$ in. bee space over the frames. Van Dusen clamps can be used to fasten the hives together if desired.

The division board for brood chamber consists of three boards 17-16 in. long, $3\frac{1}{2}$ wide, $\frac{3}{8}$ thick, and are nailed together at the ends by strips $9\frac{3}{8} \times 1\frac{1}{2} \times \frac{3}{8}$. A strip $19\frac{1}{8} \times 1\frac{1}{8} \times \frac{3}{8}$ is nailed along the top. The division board for surplus case is made in the same manner, but only one piece 4 13-16 in. wide being used. By using the division boards the hive can be made into two separate compartments and two colonies can be kept in the hive at once. This is a good idea for queen rearing.

For the alighting board we use two triangular blocks, $3\frac{1}{2}$ long, $1\frac{5}{8}$ wide, $\frac{7}{8}$ thick, with the third side 4 in. long. To the end of this is nailed a piece $15\frac{1}{8}$ in. long, $1\frac{5}{8}$ wide by $\frac{3}{8}$ thick. Then on the 4 in. side of blocks is nailed a piece

$15\frac{1}{8}$ long, $4\frac{1}{2}$ wide and $\frac{3}{8}$ thick, bevelled on the edge above the $1\frac{5}{8}$ in. strip, with which it is exactly even. To fasten the alighting board to the bottom nail through the $1\frac{5}{8}$ in. strip into the cleat under bottom.

Dry lumber should be used and the heart side of the board should be turned outward. We use fixed frames, as



THE CUSHMAN FEEDER.

can be seen in the illustration. They are modified Hoffman frames.

The Cushman Feeder is especially adapted for using on this hive. The accompanying illustration shows it so plainly that a description is not necessary. Two of them exactly fit into the surplus chambers of the hive.

THE BEE WORLD,

A Journal devoted to collecting the latest Apicultural News, Discoveries and Inventions throughout the World, containing, as it were, the Cream of Apiarian Literature, valuable alike to amateur and veteran. If you want to be kept posted you cannot afford to do without it. Subscribe Now. It is a 20 page Monthly, only 50 cents per year. Stamps taken in one or two cent denomination. The Bee World is published by

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VOL. I.

MARCH, 1891.

NO. 3.

Plenty of Bees, Plenty of Honey.

BY G. M. DOOLITTLE.

As the season of the year, in which we must prepare our bees for the harvest, will soon be at hand, I thought an article on the above subject would not be amiss at this time. In order to make a success in working for section honey, we must have plenty of bees in our hives when the honey season arrives, or a failure is almost certain, as those reared when the season is drawing to a close, will be consumers instead of producers. But how shall we secure the bees? is a question frequently asked. The best way that I know of, after years of trial of nearly all the plans which have ever been recommended, is the following: when pollen becomes plenty, say the tenth to the twentieth of May in this locality, I go to each hive, and if the bees will bear spreading a little more, or in other words, if there appears to be more bees than are needed to cover the brood they already have, on a cool morning, I take a frame of honey from the outside of the cluster, and break the sealing by passing a knife flatwise over it, and place it in the center of the brood-nest. In ten days I go over them again in this same way, always

seeing that they have all the honey and bees that are needed to increase the brood to the greatest possible extent, and so I keep on doing until settled warm weather comes in June, when I go over them every four or five days, putting one frame in the center each time, and I find that the queen will fill this frame every four or five days, besides keeping all the empty cells filled, which are daily vacated by maturing brood. By the 25th of June every available cell should be filled with brood, and the hive full of bees, if we are to expect the best results from our field. By this time white clover is at its height and all the sections should be on, if not there already. One of our noted bee-keepers once said: "Get the bees and they will get the honey, if there is any to be had," and a more truthful sentence was never uttered. Keep an eye to business and do things at the right time if you wish success. If we wait about putting on the sections when our bees have arrived at the condition I have supposed them to be on June 25th, as many do, thinking that the putting on of the sections retards swarming, and there should be but a few days honey yield, we would get nothing. It is no unusual thing to secure from six to

ten pounds of section honey from a colony per day. If the hive is full of brood and bees, and honey is plenty in the flowers. Now I will suppose that instead of working as given above, we let our bees take care of themselves, leaving weak colonies unprotected, and if any bees have died during the winter, we leave their stores for the other bees to carry away. After carrying off this, they will be apt to rob our weak colonies, and thus those which survive will have their combs full of honey instead of brood. Soon the willows blossom, then the apple trees, and thus the hive is kept full of honey. Too much stores in May and June, will just as surely spoil a colony for section honey, as it will to keep them so short of stores that they keep their brood in check all the spring. There is no such thing as having the combs full of honey during the forepart of the season and then having sections filled with clover honey, for where would the bees come from to gather said honey? Gallup once said: "We must never allow the bees to get in advance of the queen, for if we do, the prosperity of the colony is checked at once; that is, if the bees are allowed to fill the combs with honey in the spring, before the queen has filled them with brood, the colony will be an unprofitable one." Honey cannot be obtained without bees. The nine Gallup frames which I use in a hive during June gives about 45,000 worker bees every twenty-one days, and a queen that is good for anything, worked on the plan given in this article, will keep the frames filled with brood after they are once full, till the honey season begins to draw to a close, providing that the sections are put on at

the proper time; but give the same queen only 5,000 bees, and these old ones, or field workers, and they will keep the combs so filled with honey that no surplus will be obtained. If our hives contain 5,000 bees on the middle of April, with ten pounds of honey, they are what I call good colonies. Now, if we should give them what honey or syrup they could carry during the last part of April and the month of May, instead of using up the ten pounds in brood rearing, they would store the food in brood cells in addition to the ten pounds already there, so we would have about 5,000 bees in our hives all summer. Thus it will be seen, it is the bees we want in our hives the forepart of the season instead of honey. If, by the process given, our bees run short of stores, of course we must feed them, and money thus spent in feeding will return a large interest, if the season is anything like favorable. There is no time in the whole year that it pays as well to put a little money in feed for bees, where they need it, as it does at this time, yet how few seem to realize it. I often hear it said if the bees cannot get a living after the first flowers come, they can be left to die. No greater mistake could possibly exist. As soon as any of the sections are filled take them off before they are soiled, and before the bees become crowded for room, putting in sections, nicely filled with thin foundation to take their places, and thus avoid the difficulty so often experienced, of getting bees to work in a second set of sections after a full set has been taken off. As the season draws to a close, place the unfinished sections together, and as near the brood as possible, contracting the

amount of section room to suit the size of the colony, and thus secure the most of your honey in a salable form.
Borodino, N. Y.

The Wood-Zinc Queen Excluder.—How to Construct and use it.

BY DR. G. L. TINKER.
(Continued from February Number.)

In the use of the brood board it was explained in my last article that very few of the sections would be travel-stained if we placed all of the brood of a colony above the sections, which is the leading feature of my new system of management as described in my new book, in the control of all swarms, so as to prevent increase and hold the entire working force of a colony together. The system has given immense and surprising results in the practice of a large number of bee-keepers who have reported on the results of the past season. The practice has been, and may be considerably varied from the directions given in the book, but enough has been reported to fully awaken all classes of bee-keepers to a superior system of management that may be carried out to advantage on nearly all the hives in general use; but how is it possible to equal the grand results to be obtained on the two-story hive recommended?

In the use of the two-story hive of small, shallow brood-chambers we get both stories full of brood as advised by the time the honey flow begins. We then place a queen-excluder and a case of sections upon the first story, and the second story of brood we place on top of the sections with the queen in the lower story. This practice also

results in the attaching of no burr-combs to the queen-excluder or to the brood-frames, leaving all parts of the hive clean and free to handle at will. In the use of the sections in this manner, it is found that they will not be travel-stained unless they are kept on the hive some time after being finished. The brood-board may, however, be used as described if necessary, in which case we shall get less honey in the second story and more in the sections. If we leave off the brood-board we will get the upper story sealed solid with honey at the same time that we get more section honey than can be obtained by any other procedure now known, provided the stories or brood chambers used are not larger than the one recommended, which contains 830 square inches of brood comb. Here is where all the economy and profit of the new system comes in. First, we are enabled to get an immense colony and a great quantity of brood just before the honey flow begins. The bees are allowed to swarm but we are able to keep them all together and turn all to the greatest possible advantage by setting all the bees to work under the well-known energy of the young swarm. By the use of the queen-excluder we turn all of this energy to the storing of honey, and prevent the rearing of needless brood to hatch out and become consumers after the harvest is passed.

The second story of sealed honey that we get by this system may be left for the bees for winter, or it may be extracted. If we use the brood board we shall get enough honey in it so that with what is gathered from fall flowers there will be usually enough for winter.

If we hive a swarm in a single story with queen excluder and a case of empty sections, we will always get burr-combs—plenty of them; so, also, if we put on a queen excluder and a case of empty sections on the two-story hive at the beginning of the honey flow. But if we, in hiving in a single-story, take a case of sections in which the bees are well at work, or partly finished, we will get few burr-combs, and generally none at all.

(To be continued).

The 1891 Outlook.

BY JAS. HEDDON.

Perhaps nothing would be of more interest to your readers than to hear from one of the many popular honey producing regions of the north-western states, in regard to the probable honey crop the coming season. These reports certainly post us in regard to what we may expect, concerning the amount of next year's production, and consequent shading in prices. We have had almost no winter at all here, so far. About four weeks ago, the bees were flying and no snow on the ground. It is now quite cold, the mercury is only a little above zero, and it has previously hardly been lower than just below the freezing point, and that too only a few days.

Bees in the cellar, where the confinement is as absolute as though the winter was ever so rigorous, and where the temperature is about the same as it would be were it ever so cold without, and very quiet and apparently wintering well. Of course there is time enough to lose many of our colonies by dysentery yet, and to have plenty of very cold weather, but we hardly expect it, especially of any long duration after this date.

There are, however, very many colonies of bees in the hands of farmers, and bee-keepers who do not make the business a specialty, which went into winter quarters without stores enough to keep them through, and from starvation, and that alone, I expect very many colonies will perish in southern Michigan before the flowers bloom again.

So far as the past has had any influence upon the honey yielding plants for 1891, everything is fairly favorable.

ADULTERATED HONEY.

At our late State Convention at Detroit, some of the members living not far from that city, and having been out examining the honey market, brought in several jars of adulterated honey; a long and earnest discussion and hard work ensued regarding the best methods of preventing city packers from putting up that kind of goods in the future. We have quite stringent laws in this State, but they are all of the dead letter order, and, besides this, it is very hard, as Professor Cook says, to chemically determine whether honey is pure or not. He says great mistakes are liable to occur with the best of chemists, and consequently great injustice follows.

We all remember how the Washington chemists pronounced all of Chas. F. Muth's honey adulterated. They guessed this because Mr. Muth was a resident of the big city of Cincinnati. They depended more upon this circumstance than upon the action of their chemicals, no doubt. Finally we fixed it this way: The Bee-Keeper's Union, which has done so much to protect the interests of bee-keepers in this country, will soon take out a not

ent in the shape of a trade mark, from the patent office, and this trade mark will be assigned to every member of the union, to place on all his packages of liquid honey, and then we are going to see to it that the newspapers of the country educate the people to the fact that all the honey put up by the producer, is, in the nature of things, absolutely pure. In this way I think we will entirely do away with the prejudice many customers have against our production, because of the fact that it has been adulterated by city packers. The scheme has already started, and we shall watch the results with great interest. One very good result will accrue, and that is the joining of the union by nearly every honest, intelligent bee-keeper in the country. That is what we thought at Detroit, and still think. What is your idea, Friend Falconer? We want to hear from all our editors on that subject.

Dawagiac, Mich., Feb. 1st.

There are several arguments on either side of the trade mark question, but we think the arguments *against* it are the heaviest.

For Beginners.

BY MRS L. HARRISON.

I would like to teach an infant class in your school; there are plenty of teachers for the higher grades, but these youngsters in bee-culture are sadly neglected in the older periodicals. I saw a farmer throw down one in disgust, exclaiming, "There now, I've read that pesky thing through, and I do not know what to do with my bees." He, poor soul, had recently purchased two colonies of bees, and expected to learn everything at once.

The best way, no doubt, to learn bee-culture, would be to serve an apprenticeship with one well versed in bee lore. But this is not in reach of all persons who desire to keep bees. They have means to purchase a few colonies of bees, and could take care of them along with their other work, and enjoy doing so, if they only knew how. A standard work on bee-culture, is a desideratum, and could be referred to at all times. I would say to all desiring to cultivate bees, that they are no bonanza, but that fair returns may be expected on the investment, and labor expended. Crops of honey are a failure, occasionally, the same as others of fruit and grain, and we have to meet depression in prices, over-stocked market, etc.

BUYING BEES.

Spring is the best time to purchase bees, and not more than two colonies is sufficient for a person to start with, who has had no previous experience in handling them, and his knowledge should increase in like ratio with his colonies. Purchase only of a bee-keeper who has a reputation to sustain and cannot afford to lose it by selling diseased or inferior stock. It would be well for the purchaser to ascertain what hive he prefers, and purchase bees in the same; make a trip around among the neighboring bee-keepers, and see what they use, and the kind of stock they keep. There are advantages to be gained in purchasing bees in the same neighborhood. Many times a novice will need assistance and advice, and if he patronizes a bee-keeper living near, he will be more ready to render assistance, than if he purchased elsewhere. If the purchaser cannot obtain good populous colonies

of Italian bees in early spring, in the kind of hive he prefers to use in his apiary, he might get the hives, fill the frames with comb foundation and get the swarms put into them, bringing them home before they marked their location.

I prefer a foundation for hives of the height of two bricks at the back of the hive and one in front, thus making a gentle slope, so that if moisture accumulates in the hive it can run out, and it is easier for the bees to remove debris and their dead. An alighting-board which rests upon the front edge of the bricks is an advantage, for if heavily laden bees in winter weather fail of gaining an entrance they can crawl into the hive without being under the necessity of taking wing.

LOCATION OF HIVES.

Choose a place for the hives sheltered as much as possible from the north and west winds. Formerly we wintered our bees upon their summer stands and we noticed several springs that dead bees would lie like swaths through the apiary, with live ones on each side of this imaginary swath. By observation we noticed that through the place there was a cold blast, cooler in both summer and winter. If colonies are wintered in the cellar, it is an advantage in spring and fall to have them in sheltered nooks.

I have some bees located on the east side of our house, which protected them from the west winds, and trees and vines on the north serve as a wind-break. In the afternoon of a hot day how grateful is the shade while working with bees, and I always choose that time of day to be there.

Peoria, Ill.



THE W. T. FALCONER MANFG CO.,
JAMESTOWN, N. Y.

GENTLEMEN: As the season for producing honey is now closed, the bees all safely housed in their winter quarters, and another season will soon be approaching, I now write for your new catalogue.

The supplies I ordered of you last winter came all right, and with one exception, gave entire satisfaction. The sections were the best I ever used. The shipping cases were all right, excepting the glass for the 48 cases were all $\frac{1}{4}$ inch too long, or rather the grooves for the glass were not cut deep enough. I lost a few panes in cutting as I had nothing but a common glass cutter. The — smoker isn't worth a pinch of snuff. I put on a new leather to my old Clark smoker and used that this season. I use cobs as they come from the corn sheller at the mill, kiln dry them, and they are just the thing. The — has no capacity for cobs.

THE MILLER AUTOMATIC FOUNDATION
FASTENER.

Well, what do you expect me to say of that? Soon after receiving it I set it up in the dining room, (it was yet winter,) in order to test its merits. I worked all the forenoon without making a success of it, and told my wife that it was the biggest fraud—for a little thing—that I had ever bought, and I took it down and made a rough draft in my mind of what I would write to you; but, I ate my dinner

before I had time to put my ideas on paper, and that saved you from the worst blowing up you ever had. After dinner I was struck with an idea, and I told my wife I believed I could fix *that thing* so that it would work all right, and I fixed it according to my ideas, and it became in my hands a *perfect little jewel*. When I put it to actual work the next June I saw that it needed two more little alterations and then it became perfect. I use *full sheets* of foundation, and I put such sheets into 8,000 sections this season, and not one of them came down. Every one of them was placed exactly in the center and I can easily place 300 in an hour and do my own handling, and I could not have done my work this season without it, and while I do not believe it was quite worth its weight in *gold* to me, I do believe it was worth its weight in *silver*, for my bees pressed me very hard and I was scarcely able to keep up with them as it was. I set out 100 hives in the spring and secured 6,000 pounds of nice comb honey, which I sold all in Watertown for 12 cents a pound and got my cases back. Some of my hives gave me a hundred pounds and more, of comb honey. I do not extract as there is no sale for such honey in Watertown. I got an increase of 34 swarms, which, with the other hundred, are all safely housed.

I shall want some supplies this winter, and will send my order soon. I guess you do not often receive as long a business letter as this, but, "If you haven't time to read it, throw it into the waste basket."

Yours truly, CHAS. C. HARDY.

Burr's Mills, N. Y., Dec. 12.

MR. EDITOR:—In looking back some twenty-seven years, and then looking at our present bee-keeping journals, what a remarkable advance! Well do I remember my first "bee gum," when a boy after reading Langstroth's and Quinby's works. I bought my first swarm in an old board gum. How well I remember, as if it were yesterday, my first attempt at transferring from that same old gum. I had completed a Langstroth-Quinby hive, and wished to transfer to movable combs. We then had few if any smokers, and what I used, was, I think, Quinby made, wrapping some fine tobacco in cotton wadding and blowing the smoke by mouth into the hive. After this I took the old gum into the garrett, took a chisel and pried off the side, cut out combs and tied them in the frames with cotton string. When completed I felt "as proud as a King."

From that time until now I have been learning from our journals and I think all have been doing the same.

Last season was one of the poorest I have experienced since keeping bees here in N. Y. State. The winter was open, and bees bred fast and early, and everything looked encouraging for good returns, but alas, the only money made was in June, after which cold rains and little honey left us in poor shape for winter. I had to feed one-half my colonies. I felt sorry, as I had taken a deep interest in half-story hives and was in shape to test them, as a means of getting more white comb honey, by contracting, a la Heddon. From my experience this last season I think the two systems run together will be the most profitable. The coming season I shall run them in this way. Bees in ten combed L.

hives will be left to breed full, and as soon as swarming time comes I will put on an Alley queen trap. (By the way, what a debt we owe Friend A. for his invention of the queen trap; it is one of the best labor-saving inventions we have, no more climbing trees after our swarms). As each hive swarms remove trap with queen, substituting a half-story hive with two tiers of sections on the old stand, removing the old hive to a new stand, thus getting most of the young and old bees with the old queen, and all then work nice comb honey. The old hive on the new stand will raise a young queen and will contain plenty of young bees and stores for wintering. This way of working the two systems insures good returns and little labor, and also is one of the best and quickest for Italianizing to keep stock pure and keep down increase. T. G. ASHMEAD.

Williamson, N. Y.

GENTLEMEN.—The AMERICAN BEE-KEEPER for February is at hand. There can be no objection to a bee paper being published in connection with a supply business, *if the publishers took no more pains than you to "blow their own bugle."* In many respects I deem your journal ahead of any I ever read. It is chock full of good and practical suggestions, valuable, I should say, not only to the beginner, but to the older ones also. Every bee-keeper in America should have it.

Respectfully yours,

H. J. ROGERS.

Stannard's Corners, N. Y., Feb. 8, 1891.

GENTLEMEN:—* * * This has been the coldest winter Cuba has seen since 1855. From Dec. 10 to Jan. 27, 47 days, there was a cold north wind

blowing all the time, and it cut our honey crop short very much, so at this time we have only 60,000 lbs. out, but shall get close to 75,000 lbs., perhaps more. Those 47 cold days were right in the midst of our surplus season, and the bees stored very little honey. It is warmer now and they are doing better. I will send my yearly report when the season is over.

Yours, &c., A. W. OSBURN. *

Punta Brava, Cuba, Feb. 8.

We shall be glad to publish friend Osburn's yearly report when it is received.

Mission of

OUR LADY OF THE SACRED HEART.

MORRIS MINN., Jan'y 6, '91.

DEAR SIR:—Be so kind and send me the AMERICAN BEE-KEEPER for this year. * * * My bees are doing well. Am well pleased with your hives. Yours gratefully,

MOTHER SUPERIOR.

DEAR SIR:

I see by the article on page 30, Vol. 1, No. 2, AMERICAN BEE-KEEPER, that you are advocating the Hoffman frame, I began to use the Hoffman frame when first put out by J. H. Nellis, and I have handled it more than ten years. It is a good frame, and I can vouch for its many superiorities, but let me say that it costs no more to have a full length wide end bar than it does to have it wide for 5 inches, and since using the wide end bar for the past six years, I am forced to say that I have got through with the Hoffman frame, and when some of the users of it go to their hives some time and find the space between the end bars and the ends of their hives packed full of honey, they will say, "What did the bees do that for?" Now I must say,

from actual experience, that there is not a frame that I know of that is equal to the Hoffman for being blocked in with *honey*, and I think that the wide end of the top bar has something to do with the cause of it. The bees will build out the comb through that notch between the two frames, and then up goes the comb and filled with honey. Perhaps a good many will say, "Well! I never had that happen," and why not? There are two reasons: First, you were not crowding your bees to finish the last section at the closing of the harvest. Second, you very likely had not got hives full of bees that had not swarmed. Raise your queens after the honey flow. With us it is between the sumach and fall flowers, from Aug. 5 to Sept. 10 or 15, and you will have but little tendency to swarming the next season, if you start them right, and, contrary to what *some* of our authorities say, these non-swarmed colonies, well manipulated, will pay better than those that swarm and you have capital in two hives.

Yours, &c., H. L. JEFFREY.

Woodbury, Conn., Feb. 15.

FRIEND JEFFREY: We are glad to hear both sides of the Hoffman frame question, and especially any suggestions of improvements. However, in our own experience of several years with regular Hoffman frames, we have never had the trouble you speak of. We would like to hear from others on this subject.

The Bee-keepers' gathering in Flacht, Germany, Oct. 19 and 20, 1890, proved to be a most interesting one. Representatives were present from all parts of Europe to listen to Pastor Weygandt's new doctrine of artificial heat

in winter repositories. He claimed that dysentery is chiefly caused through chills, unhealthy food, old dysentery spots in repositories, under-filling of the boxes with honey, and too early brood starting. The theory of artificial heat in bee houses and cellars does not seem to take very strong hold on the Teutonic mind. Yours, &c.,

STEPHEN ROESE.

DEAR SIRs: * * * Bees are coming out all right, with good prospects of plenty of honey. Peach and orange trees in full bloom; also, wild flowers coming on fast. Bees are rearing brood now, and getting some honey. Yours respectfully,

A. C. HART.

Eustis, Fla., Feb. 16, '91.



THE PROPER SPACING OF BROOD FRAMES.

A great deal of interest has been manifested of late concerning this matter. I am not sure that any fixed distance from center to center of the combs is necessary or even desirable. I prefer to have my combs movable so that I can exercise my best judgment when spacing them. When combs are being built by the bees I place the frames as nearly $1\frac{3}{8}$ apart as is practicable, for thereby I get straighter combs, having fewer waves and kinks, whether built from starters only, or or from full sheets of foundation. But after the combs are fully completed I prefer to work them $1\frac{1}{2}$ inches from center to center in the brood nest and

$1\frac{3}{4}$ apart in the extracting supers. Colonies that are worked with the brood combs as wide as $1\frac{1}{2}$ inches apart from center to center always come through the honey season in better condition than do colonies that have the combs worked closer. This is a matter of great importance to me. The colonies which come out of the honey season in the best condition are always best colonies the following spring. Combs that are to go to the extractor may be worked $1\frac{3}{4}$ inches apart. Such combs are heavy and plump. They are rapidly uncapped and turn out in quantity of honey with less labor than do combs closer spaced, to say nothing of obtaining the same quantity of honey with fewer combs, which of course means less expense. When producing comb honey closer spacing in the brood nest is less objectionable, because bees are liable to fuss with bar and brace combs when storing comb honey.—*Demaree, in C. B. J.*

"RAMBLER" IN PROVIDENCE.

* * * At the close of the day's labors we were whisked off by rail to Barrington, and the residence of Arthur C. Miller, several miles out of Providence. Mr. Miller's time at bee-management is mostly in the morning and evening. The rest of his time is devoted to banking business in the city. It is a delightful run out of Providence to Barrington. * * * Mr. Miller has a commodious and pleasant home, with a wife and three little ones to welcome him after the cares and fatigues of the day. In the rear of the house is a large yard and kennel for the pet blood-hound; and beyond the poultry-house with the pet rooster. A cow has been added recently to give

pure lacteal food for the little ones, and to give Mr. Miller necessary recreation in the early morn. * * *

The Hoffman frame is used in his apiary, and the spacing of frames, and from frame to honey-board or crate, is large enough to give the bees easy access, and no larger—we should say a scant 5-16; and when the crates are removed, not a brace-comb is visible. Italians and Carniolans are in the apiary; but Mr. Miller favors the Carniolans. * * *

As our readers will remember, Mr. Miller is the inventor of the *best foundation-fastener* yet devised. We here saw its practical working for the first time, and foundation can be securely stuck to the sections with rapidity, leaving no thick rib next to the section. The apiary is comfortably located under the spreading branches of apple-trees of the Roger Williams variety.—*Gleanings.*

The above is only another of the many testimonials as to the value of Mr. Miller's foundation fastener. It is no doubt a valuable invention to any one having a large quantity of sections to fill with foundation. An article from Mr. Miller's pen will appear in our next issue.

WHERE AND HOW TO BUILD HONEY HOUSES.

A honey house should be at the side of the apiary. There seems to be no question upon this point. The bees are more easily watched, and it can be more easily approached with a team when bringing in supplies, and in shipping honey.

If in a locality where a cellar is needed in wintering the bees, the place for the cellar is under the honey house. The cellar ought to be near the apiary

and needs a cover over it. The honey house must also be near the apiary and needs a good foundation. Putting the cellar under the honey house accomplishes both objects.

It costs but little more to build two stories high, and the upper story furnishes an excellent store-room for hives, supers, sections, empty combs, and the thousand and one things that accumulate in an apiary.

A large share of the lower floor is needed for a shop, and the balance is for a honey room. There is one point upon which I neglected to touch in my leader on this topic, and none of the correspondents have touched it, and that is shall the extracting be done in the honey room? If we are to keep the honey room at a high temperature, *a la* Doolittle, when it contains comb honey, such a room would not be a very comfortable place in which to extract the honey. Aside from this I see no objection to having the extracting room and honey room all in one.

As to materials used and methods of building, much depends upon circumstances, and what is available in each locality. I was quite interested in the plan proposed by Mr. Shuck, that of making the cellar and house walls of cement.—*Review*.

While talking about introducing queens, Bro. Alley said he would show us how to do it. Taking a fine, large, fertile queen from a nucleus, he stepped to a full colony, removed the cover, and dropped her, in an unceremonious manner, among the bees. We watched her a few moments. The bees were friendly, and she marched straight down between the combs, the reigning majesty. The colony had been queen-

less three days, and it was *just the proper time* to introduce her. Much earlier or much later than 72 hours would have resulted differently.—*Rambler, in Gleanings*.

This is a good time to get hives ready for your swarms for the coming season. The old orthodox advice is to adopt one style of hive, and stick to it, but very few bee-keepers follow this advice! How many of even the big bee-keepers follow it? It appears to be human nature for the bee-keeper to do just about so much inventing in the line of bee-hives before settling down to some hive that was invented by a practical bee-keeper, who looked after the first cost of his hives. At the present price of honey it hardly pays to make or buy costly hives, unless you use chaff-hives. I prefer the single-walled hive. I have had great success in wintering bees on the summer stands, with chaff and straw protection, in common single-walled hives.—*M. M., in A. B. J.*

A small bee-space between top bars and sections, was considered at the Northern Illinois convention, of as much or more consequence, in preventing brace-combs, as thick top-bars.—*Gleanings*.

Our friends in the south-west are referred to the ad. in another column of W. H. Laws, Lavaca, Ark. He will mail price list of queens and supplies for the asking.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—	PUB. PRICE.	BOTH.
American Bee Journal,	\$1 00	\$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	1 00	1 35
Bee-Keeper's Advance and Poul-		
tryman's Journal,	(50)	90
Canadian Bee Journal,	(75)	1 15
Gleanings in Bee Culture,	1 00	1 35

The American Bee-Keeper,

PUBLISHED MONTHLY BY

THE W. T. FALCONER MANFG CO.

TERMS :

50 cents a year in advance ; 2 copies, 85 cents ; 3 copies, \$1.20 ; all to be sent to one postoffice.

Postage prepaid in the U.S. and Canada; 10 cents extra to all countries in the postal union and 20 cents extra to all other countries.

ADVERTISING RATES:

15 cents per line, 9 words; \$2.00 per inch. 5 per cent. discount for 2 insertions; 7 per cent. for 3 insertions; 10 per cent. for 6 insertions; 20 per cent. for 12 insertions.

Advertisements must be received on or before the 20th of each month to insure insertion in month following. Address,

THE AMERICAN BEE-KEEPER,

FALCONER, N. Y.

Subscribers finding this paragraph marked with a blue cross will know that their subscription expires with this number. We hope that you will not delay in sending a renewal.

A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

As intimated in our last issue, we have purchased the subscription list and good-will of the *Bee-Keeper's Advance*, formerly published by J. B. Mason & Son, and subscribers to that magazine will receive the BEE-KEEPER to the expiration of their term of subscription. We hope to give you a journal superior in every way to the *Advance*, and trust that you will show your appreciation of our efforts by renewing your subscriptions promptly. The Dec. number of the *Advance* was printed but was never mailed owing to the sudden disappearance of J. B. Mason, whose whereabouts is not known to his family.

Well, here we are with four more pages than heretofore. Our advertising department was so crowded last month that it encroached upon our space for reading matter, and we were compelled to leave out over a page of paid ads. besides ; then too, there

has not been thus far an opportunity for us to advertise our own business at all, and while we did not start the BEE-KEEPER for that purpose primarily, still we would like to have something to say to our readers about ourselves occasionally. Even with this enlargement our space is inadequate to meet the demands made upon it, and we have several valuable and timely articles from prominent bee-men which were crowded out of this issue.

There are numerous indications that the honey season of 1891 will be an excellent one. It will therefore be well for every bee-keeper to get as many swarms through the winter safely as possible, and if he expects to need any supplies our advice is to order them as soon as possible, so they will arrive in time. Nothing is so vexatious to the average bee-keeper as to be compelled to wait two or three weeks for his supplies when he needs them at once. Profit by last years, experience and order at once.

Old reliable *Gleanings* keeps on in the "even tenor of its way," growing better and better every month. Dr. Miller is the "bright particular star" in its ferment of contributors at present,

The *American Apiculturist* continues to be excellent. The Feb'y number is even better than the previous one, and Friend Alley called that his souvenir number. An observing reader can readily see that its editor is an old hand at the business.

Commencing this month we shall furnish the latest and most authentic honey and bees-wax market reports.

Wm. Styan enters the editorial ranks at the helm of the *California Bee-Keeper*, a new journal nearly the size of this magazine. It is well printed, and starts very fairly. We wish it success.

All our readers have doubtless read the big potato advertisement of Jacob T. Timpe in this and other bee journals. Friend Timpe sent us some of his tubers and they were as big as his advertisement, and their eating qualities were most excellent. Read his offer.

We acknowledge with thanks the receipt from the publisher, Henry Alley, of a copy of the 1891 edition of his "*Thirty Years Among Bees*." It is a valuable book and should be in the hands of every bee-keeper. Price by mail 50c.

W. M. Gerrish, Nottingham, N. H., writes us that bees are wintering nicely in that section. Mr. Gerrish is quite an extensive supply dealer, and our friends in his vicinity should ask him for his price list.

Cannot you get up a club of subscribers for us, dear reader? It will pay you. We allow you to retain ten cents on every subscriber. Try to send us a few before the next issue.

We have had several inquiries as to the size of hive and frame best adapted for extracted honey. We would be pleased to receive a few short articles on the subject, for our April number.

We believe the winter case will be in general use in the near future. We would like to hear from our friends who have had experience with them.

In our January number we stated that a discount would be allowed by our advertisers on first orders sent in by any reader mentioning this journal. Before inserting the item we wrote to our advertisers asking their consent, and received favorable replies from every one but *two*, and these were not heard from until the magazine was printed and ready to mail. We thereupon wrote these that as all our advertisers from whom we had heard had readily consented we did not suppose they would object, but we would do the best we could and would gladly pay any discounts claimed, ourselves, if they would advise us the amounts. One of these parties, the G. B. Lewis Co., positively refused to compromise the matter in any way, and, evidently, with the intention of doing us as much harm as possible, wrote to the editor of the *A. B. J.* a letter in which they stated that they had given us "strict orders" not to publish their ad. with the discount offer, etc. This was *false*, but the editor of the *A. B. J.*, of course, had only their word for it, and without first investigating the matter, as he should have done, he very indiscreetly published an article on page 109 in which our good name and honesty were severely questioned, a thing that has never occurred before during our entire business career. We immediately wrote a letter to Mr. Newman, stating the exact facts in the case and offering him \$1,000.00 if he would prove even *one* of the assertions he had made regarding us,—and we asked him to do us justice in the matter by publishing *our side* of the story. This he refused to do, until other means were brought to bear, when he very discreetly concluded to give an explanation which,

while not giving our side of the story, yet, and, indeed, affording us very meagre justice, exonerates us from the charges originally made, and places The G. B. Lewis Co. in an unenviable position. Brother Newman writes us that he would never have written the original article had he known the *truth* of the matter at first,—and we believe him.

The discount offer was withdrawn after our January number, as on thinking the subject over carefully we concluded that it would incur a large amount of extra work during the busy season, not only for ourselves but our many advertisers also; still, we do not think it the “foolish idea” Bro. Newman does; he looks at it from a *biased* standpoint. Many of the largest manufacturers and dealers in the country approved of the idea.

It is a matter of sincere regret to us that The G. B. Lewis Co. should evidence so much “hard feeling” toward us, as we are entirely innocent of ever having done them any intentional wrong. We have always endeavored to so live, and transact our business, that when our career is ended, as end it must sometime, we can count all as our *friends*.

It is not always economy to purchase the cheapest hive you can get. The best way for beginners is to look around and investigate the merits of the different hives, then purchase the one having the most good points. It may cost a little more but if you can manipulate and protect your bees better in it, and consequently obtain larger surplus, is it not the cheapest hive after all? But by all means decide upon a standard make of hive, so that your supplies will not always be

“odd,” and then when your order is sent in to your supply dealer in the “busy season” you can get your goods promptly and will not have to wait for them to be made.

There are some who advocate a less number of bee-keeping appliances, but we fail to catch their arguments. Every bee-keeper is not compelled to use them all, and while one man may use one style of appliance another may prefer a totally different one for the same purpose. Then, too, this theory of frowning down upon new inventions would eventually debar us from the advantages of any new methods that might otherwise be discovered. It is an “old foggy” idea.

The *Bee-Keepers' Record*, (English), after commenting on the unusually severe winter they have been experiencing in England and Europe, says:

“Where bees have been fed up well with good cane-sugar syrup they seem to have borne the frost well, judging by the few accounts reaching us of bees having ‘had a flight,’ and, though a good many dead are found on floor-boards it need cause little surprise, seeing that the dead of the last two months or more are there, and have so accumulated through the bees not having had a chance to carry their dead comrades away—as they usually do at intervals of a week or so—that we do not wonder at some alarm being felt. So far, however, as we can gather, stocks are generally ‘alive and wonderfully well,’ as one report has it, and but for the dysentery already mentioned, we have the best of reasons for hoping that the ‘open time,’ which may now be looked for any day, will prove that *well-hived* bees are in good health, which means being in good heart for starting breeding as soon as the thermometer rises a little.”

The winter there has been about like one of our average New York winters.

WHAT OTHERS SAY OF US.

To show our friends how favorably we have been welcomed we print a few of the many flattering notices which we have received :

"The AMERICAN BEE-KEEPER is beautifully gotten up."—Dr. Miller, in *Gleanings*.

"It is a credit to the printer. Contains well-written articles from experienced apiarists."—*American Apiculturist*.

"It is as bright as a new half dollar which is its price per year."—*Nebraska Bee-Keeper*.

"It presents a very attractive appearance."—*White Mountain Apiarist*.

"It is well published and well gotten up."—*Bee-Keepers' Guide*.

"As bright as a silver dollar, and full of good things."—*Bee World*.

"The second number comes out like the first with the vigor of age."—*Gleanings*.

"Am so well pleased with it that you may put me down for two years subscription."—G. M. Doolittle.

"It had 'success' stamped upon its first issue."—*Review*.

We have enough more to fill a dozen columns.

The fact that every bee-keeper should take at least one first-class bee-paper or magazine proves itself to us almost daily. The careful reader of such always orders his supplies in a much more comprehensive manner, and is more sure to know just what he wants, and thus saves what he might otherwise have spent for articles of little use to him. Then, too, he keeps posted on the value of his honey and bees-wax. Only a few days ago we heard of a man who sold nearly 200 lbs. of good bees-wax for only 20c a pound, just two-thirds of what it was worth, or \$20.00 less than we would have paid him for it. Do you suppose he took a bee-paper? Well, if he did, he didn't read it.

Jacob T. Timpe, of Grand Ledge, Mich., offers to give a years subscription and 5 eyes of his new seedling potatoes to all who will send him 55c to pay for this magazine and postage, etc., on the potato eyes. With it he will also give you a chance on his nuclei for largest potato, and also chance on nuclei for naming that variety. See his advertisement in another column.

We are anxious to retain on our subscription list the names of *all* the old subscribers to the *Bee Hive* and *Advance*, we therefore will be glad to receive your renewals promptly. Remittances can be sent in postage stamps as we use over \$1,000.00 worth every year. We are sure you will find the BEE-KEEPER very much of an improvement over either of the above papers, and it has *come to stay*. We promise every subscriber that we will refund the entire amount of his subscription in case we cease its publication within three years, so do not be afraid to entrust us with the amount of your subscription. The BEE-KEEPER is already on a paying basis, and will grow fat and flourish when many of its contemporaries are "among the things that were."

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in the principal cities. It is not so complete as it will be hereafter.

NEW YORK, Feb. 24.—The supply of honey is small excepting California. While the demand is good, prices of fancy white 1 lbs. 15c 16c. Extracted 7c 8c. Beeswax is scarce and in good demand, good domestic 31c; foreign 28c 30c, as to quality. Prices have upward tendency.

F. G. STROHMAYER & CO

ALBANY, N. Y., Feb. 23.—We have received up to date 2190 cases of comb and 240 packages of extracted honey. As we expected, there is an increased demand for dark extracted honey, and we are nearly out of stock. Comb honey is moving off slowly with no change in prices. White, 16c 18c; mixed, 14c 15c; buckwheat, 11c 13c. Extracted light, 9c 10; dark, 7c 8c. No beeswax on hand.

CHAS. McCULLOUGH & CO.

CINCINNATI, O., Feb. 24.—There is a good demand for all kinds of honey, with a good supply of all but Southern, which is scarce. Choice comb honey brings 16c 17c in a jobbing way. Extracted 6c 8c on arrival. Beeswax in good demand at 24c 26c for good to choice yellow. CHAS. F. MUTH & SON.

CHICAGO, ILL., Feb. 24.—Demand for comb honey is not very active, and stocks in this city are ample to supply the demands. We quote white 1 lbs. 17c 18c. Next grade 15c 16c. 2 lbs. 14c 15c. Extracted 7c 8c 4c. Beeswax, good demand 25c.

S. T. FISH & CO.

ST. LOUIS, Feb. 21.—Little Extracted honey in market. Prices, if bright, 6½c 7c. Comb in light demand 16c 17c for bright. Dark 13c, Beeswax, prime, 26c 27c.

D. G. TUTT GRO. CO.

KANSAS CITY, Feb. 20.—Fancy white 1 lb. comb, 18c; fair to good, 17c. dark 1 lb. 14c 15c; 2 lb. white comb 15c 16c; 2 lb. dark, 13c 14c; extracted, white, 7c; dark 5c 6c.

HAMBLIN & BEARSS, 514 Walnut St.

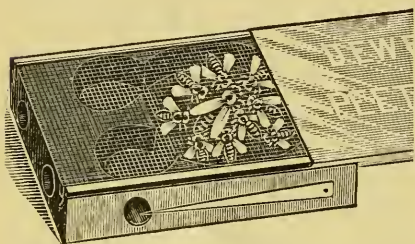
BOSTON, Feb. 21.—Honey is in fair demand; supply short. Fancy 1 lb. comb, 19c 20c; fair to good, 18c 19c; 2 lb. sections, 16c 17c. Extracted, 8c 1c. There is no beeswax on hand.

BLAKE & RIPLEY, 57 Chatham St.

Dewey's Peet Cage.

Almost everyone is familiar with the Peet cage and that there are several objections to it. Messrs. F. H. & E. H. Dewey of Westfield, Mass. have lately improved it so that the principal objections are done away with.

Below we give an illustration of the cage as made by them.

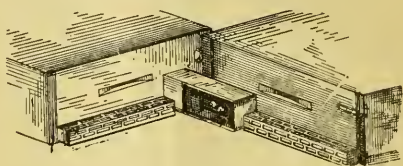


It will be seen that unlike the old style it has a piece of wire gauze on either side, so that the queen does not come in direct contact with the tin slide, which in cool weather would be liable to chill her, and there are also two $\frac{1}{4}$ in. holes through the end filled with candy and also one through the side, thus enabling a number of bees to be at work at once liberating the queen. When the candy is consumed the queen emerges through one of the holes. By using this cage the brood comb is not mutilated, as the cage is simply hung by one of the tin points in the brood chamber between two frames, so that, by spacing the frames the bees will have access to both sides of the cage.

As a rule, I prefer to hive all swarms on the old stand, removing the old colony to a new stand, thereby throwing all of the working force into the new hive on the old stand, removing the surplus department from the old hive to the new.—*Doolittle*.

A New Swarm Hiver.

Below we give an illustration of a new swarmer, the invention of Mr. N. C. Petrie, of Cherry Valley, O. He has recently obtained a patent on it. As will be seen in the illustration, it consists of a box, which is the trap, made of wire cloth and wood, and two other boxes or guides made of queen excluding zinc. The swarmer is used in the position shown, with the perforated zinc boxes, which are open on the bottom and sides towards the hive, in front of the hive entrance.



It is, of course, understood that one of the hives is empty. The bees, which are about to swarm, issue from the hive entrance through the holes in the perforated zinc into the open air. But, the queen is stopped, as the perforations are too small to admit of her escape. She then crawls along into the central box through a wire gauze cone which will not admit of her returning, thence through another cone into the other perforated zinc box, and then into the empty hive, where the young swarm will follow her. The central box is made with wire gauze front, and also has a trap door of perforated zinc on top which will allow workers to escape should they get in. If the cones are arranged so that they point towards each other an effectual queen and drone trap will be formed. By the way, this is very similar both in appearance and construction to Alley's Swarm Hiver. We do not know which claims priority of invention.



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APRIL, 1891.

NO. 4.

Spring Protection.

BY R. F. HOLTERMAN.

In my last article, the necessity of greater care to protect hives during winter was spoken of, and in this it is proposed to speak of Spring Protection.

The advantages to be derived from proper protection during spring are very great. I have had protected and unprotected colonies side by side in spring, and do not hesitate to say, protect your hives during the spring months. Nor only do the bees retain a more even temperature in the hive during a changeable season, but they attain a higher temperature at a time when the temperature would otherwise be very much lower, and the bees would suffer thereby. True, there are times when the temperature of the brood chamber would be somewhat higher if the hive were not packed and the sun could shine freely on it, but altogether the temperature of the brood chamber would be higher or remain high enough without extra labor, and the lowering of the temperature at times is a positive gain, as in spring there are many days when the sun would induce bees to fly when the wind would be sufficiently cold to destroy them. The bees can then build up

almost unchecked if protected, provided always they have sufficient food.

When the sun is strong and the wind cold, entrances to the hives should also be protected. If in addition to that, we can give the bees bee-candy or maple sugar on top of the frames, we have done just about all we can towards successful spring management, one or two of our best bee-keepers to the contrary, yet I never allow my best colonies to build up the weaker, neither do I contract the brood chamber unless it is below the average. I have abandoned that method, and prefer a few weak colonies and the balance very strong.

The question naturally arises, "What shall be the nature of our protection?" Every individual must to a large extent answer this for himself. His business, the number of colonies he has, and his locality, must all assist in answering the question. In most localities in Canada, the chaff hive is not sufficient protection to be depended on every winter. Probably in the United States a different state of affairs prevails.

Next, a bee-keeper with out-apiaries or even a large number of colonies requiring agility in manipulation, I

venture to assert, will not want a chaff hive, even if he is in a milder locality than Canada.

To those making bee-keeping a mere side issue, and not having an extensive apiary, I would say, take a chaff hive. Your bees will always be packed, and as you belong to the class that often does not protect them when it is essential, you will be safe. Your colonies will be protected from the summer heat as well as the winter cold, and they will be less liable to swarm, and of comb honey, will produce a more even article.

Hives need not be handled much in swarms. Today we largely hive swarms in swarm catchers and the like, and carry the swarm to the hive, not the hive to the swarm.

The disadvantages to the extensive bee-keeper are greater than the above advantages, therefore we must adopt some other method of protection. The cheapest way of course is in clamps. I have about nine colonies in clamps, but probably not the best. Individual clamping is better, and to facilitate storage room when not in use, I like the four sides in two, being joined at opposite corners, and made to hook together at the loose corners thus:



I think little is gained by underneath packing, but the sides and top should be well protected. When settled warm weather comes, the outside cases may be removed, the two pieces comprising the four sides unhooked and placed in one another, and kept

until required. If I could not arrange to pack otherwise, I would add a half story, or a whole story even, and put a cushion of sawdust or forest leaves above the frame. Of course I do not ignore the fact that spring dwindling and poor wintering are often intimately connected, but that does not alter the importance of spring protection. Healthy colonies may suffer more or less, and we have a right to do the most in our power for enfeebled colonies, just as much as we have a right to protect one sick and feeble in the family.

Strong colonies to catch the earliest flow is very important. It often means a honey crop when the weak get none.

Romney, Ont.

[By a "clamp" is meant an outside winter case, which is held together at two corners by some sort of clamp or clasp, while the other two corners are nailed tightly.—Ed.]

Advice to Beginners in Bee-Culture.

BY JAS. F. GATES.

Bee-culture is a very profitable as well as fascinating pursuit, yet in choosing it as a profession a person must be very sure he likes it above all other trades, or he will not be very sure to make a success of it. The trade a person engages in is never to blame for the failure of the person who has adopted it. If you like your team you will take good care of it; just so with your trade, no matter what it may be.

After having made sure you like bee-keeping as a trade, make up your mind to drive it well, and never let it drive you. You may, and it is likely you will, meet with reverses the first few years, but the time to consid-

er is before you commence, not after. If you mean only to *try* bee-keeping to see if there is anything in it, then don't touch it, for there is nothing in it for a man of that make-up. If you mean to let bee-keeping try *you* to see if there is anything in you, then go ahead, and if you have grit you will succeed.

Having settled the matter thus far, buy two or three colonies, of Italian bees from some reliable man. Don't believe all you read or hear about the many kinds of bees now being talked so much about. The people that are praising these new varieties know better what purpose they have in view than you do.

It is next to impossible to mate queens with drones of a certain breed with any degree of certainty. Many years of experience has taught me that Italian bees, allowed to mix as they please with the black bees of your vicinity, produce bees that "can't be beat." There may be good points about some of these new varieties, but taking all things together the Italian is far the superior of anything yet discovered. Buy your bees of some bee-keeper who has already made a success of the business, then you will be apt to get good hives. A beginner is very liable at this point to make the mistake of following the man of theories. His anxiety to push the matter, the novelty of being a "bee-keeper," the desire to at once get to the bottom of matters, heedless of the proverb, "the more haste the less speed," makes him very apt to become the victim of sharpers and theorists, and very likely he will soon give up the business in disgust, not omitting in his fit of anger at his losses,

to give bee-keeping a bad name. The fact that theories too often outshine the practical, especially when on paper, has been a great source of trouble and expense to the beginner. Even older heads have been made unsteady at times by the allurements of theorists.

When a man embarks in the bee business Mr. Theory, like the gossiping neighbor who visits you first, is ready and willing to throw light on any and every point connected with your pursuit. Don't take or follow any advice thus gratuitously given. You had better pay some good man a high price for the *truth*, than follow cheap advice which will be sure in the end to cost you many times more than the truth would in the first place. No bee-keeper of any worth will tell you very much for nothing. His knowledge has cost him too much, and is a part of his stock in trade, the same as in other professions.

One of my early lessons was buying too many bees to commence with. I paid a man \$176 for 25 colonies of bees and eight empty hives. I asked him some questions about taking care of them, which he answered properly as I look at it now, yet he had no inducement to tell me more than I asked, and the truth half told sometimes leaves things in bad shape. The result was I worked my bees that season in such a way that I did not make \$20 out of them, and increased them to 48 colonies of which all died but four the following winter. The man I bought them of was not to blame for he told me some had paid him as high as \$2 for information, which at the time I thought ought to come for nothing, but I would have done well to have

paid him much more than to have done as I did. I did not subscribe for a bee-journal, for I thought I could find out how to keep bees alone. After I had lost a great deal of money I commenced studying journals and books, and here theories captivated me to such an extent that I was not much better off. Some bee writers, like patent medicine venders, seem to think the more wonderful and complicated they make things appear the sooner they are swallowed by most people. The mysterious is generally thought to be the proper thing, especially by the beginner, hence the "humbug" is nourished and becomes a thrifty insect.

The very best way to learn the trade of bee-keeping is to work one season with a practical bee-keeper. If you can't do that, then buy standard works on bee-keeping, and subscribe for a bee-journal or two, and study them well, but don't try to follow all you read in them. Let your eyes and common sense guide you. Visit some practical bee-keeper often, consult him, and don't be afraid to pay him for his time and trouble in setting you to rights. Don't occupy his time in telling him what you know. Tell him what you don't know, but want to find out.

Ovid, Erie Co., Pa.

Spring Treatment of Weak Stocks.

BY ARTHUR C. MILLER.

"What shall be done with weak stocks in the spring?" is a question that annually puzzles the bee-keeper. On a proper solution of this question largely depends the success of the honey harvest, and to help others to

such a solution is the object of this article.

I have found the method described herein to be a simple and profitable way to use weak stocks.

As early in the spring as it is safe,—generally about April 1st here,—I examine all my stock. The very weak, (say two "L" frames of bees,) I unite with one of the stronger stocks, first destroying the queen of the weak one.

From the next stronger of the weak class, (from 3 to 5 "L" frames of bees), I take all but two combs of bees and brood and distribute them among the strong stocks. The two frames of brood and bees with the queen I leave on the old stand and as they increase in strength I exchange an empty comb for one of brood, giving the latter to the strong.

And so on through the whole apiary continually making the weak weaker, and the strong stronger.

By thus doing I get a lot of *very* strong stocks and a few nuclei, instead of an apiary of all sizes of swarms from strong down.

This result is obtained by a small amount of manipulation and by properly timing my efforts I can get the stocks to their maximum strength just at the opening of the heavy flow.

The value of any plan that will accomplish this is apparent. The many uses to which the nuclei, obtained by this system, may be put, make them far from a losing investment.

In closing I wish to call attention to the fact that the foregoing system is quite different from that of uniting several weak stocks to make one strong one. The latter is often a failure, the former is not.

Providence, R. I.

Ants in the Apiary.

BY MRS. L. C. AXTELL.

The question was asked at the International Bee Association, "What would keep ants from eating up the bottom boards of hives?" Two persons answered: "To paint the bottom of the hives with hot coal tar, also to sprinkle the ground with powdered corrosive sublimate."

I will give a little of our experience in the former part of our bee-keeping.

We found the little red and black ants quite troublesome, not so much to the bees as to ourselves. The little black ants would run up the corners of the hives and rear immense numbers of young on top of the brood nest, between the quilts if there was a double quilt on top of the bees. In that case we would gather up the quilts as quickly as possible and run out of the apiary with them and beat them off, killing as many as we could, being careful not to let them run up our sleeves as they pinched very annoyingly. We returned, put on quilt or a board and usually not many would return. Sometimes we would find a small cluster in the dummy by the side of the brood nest.

But the great annoyance was in their building immense hills under the alighting board and the hive, until the hives were imbedded, and if left long enough dirt would be carried into the hive. We sowed their hills many times with large quantities of salt, which seemed to do no good. I think they picked it up and carried it away, and as this happened at an out apiary we did not like to bother to get hot water to scald them. They became very troublesome.

Some of the mounds would be in or near the center of the apiary where we wanted the hives to remain.

When we would remove the alighting board on the hive so as to disturb their nests, they would attack the bees, two or more ants hanging to each bee, which seemed to put them in agony, and they would fly around and around in a circle, seemingly unable to arise from the ground for a moment. The bees seemed afraid of them and would scatter or cluster very quickly when there were many ants. If there were but few the bees would pick them up and fly away with them.

We found to mix London purple or Paris green through their nests under the alighting board and hives, would, for a while, destroy the most of them, but as it is very poisonous great care should be taken not to use it where the bees could get to it, as it would stick to their limbs and might be tracked over the combs. I should think insect powder would be safer to use, poisonous to insects but not to birds and animals or any creature with lungs.

The best way to drive ants away was to raise the hive entirely from the ground by putting a brick under each corner, and dispense with alighting boards that touch the ground, except in swarming time. For a while they would work around the bricks, but not badly. Ants are much worse in old orchards or woods where there is decaying roots and stumps of trees.

If it was not for the danger of losing our clipped queens when the bees swarm we would dispense with alighting boards that reach to the ground

altogether, as they make hiding places for rats and mice also.

Roseville, Ills.

[We think it is better to have the alighting board reach to the ground, as we have often seen heavily laden bees drop to the ground in front of a hive and run up the alighting board into the hive. Coal tar is doubtless the best thing with which to paint the bottom boards, as it not only protects it from the ants but makes it water-proof and consequently dryer and more durable. It is well to paint the sides of hives up about two or three inches also.—ED.]

The Wood-Zinc Queen Excluder.—How to Construct and use it.

BY DR. G. L. TINKER.

(Continued from March Number.)

It is not claimed that all burr-combs are prevented by the new system of management with the queen excluder, but that so few are built that the bee-keeper has no trouble in taking apart hives, taking out brood frames, etc. And it is rare to find honey in the burr-combs so built. We however place the queen excluder down within $\frac{1}{4}$ inch of the top bars of the brood frames. Still this does not prevent burr-combs when we manage in the old way.

It will be seen, therefore, that the excluder has uses aside from its queen excluding functions that all the bee-keepers must value. The saving of labor in the cleaning up of section cases, brood frames, etc., will pay for every queen excluder used in a short time and save any amount of vexation besides. The annoyance from burr-combs is perhaps greater to the novice,

but it is noticeable that even experts in the art of bee-keeping have gone into the thick and wide top bar remedy with an enthusiasm worthy of a better cause if they really care nothing about burr-combs. As for myself I labored for years to find a practical remedy and it was discovered where least expected in the use of storyfying hives. Thick and wide top bars are only a partial remedy, as bee-keepers will find out the first good flow of honey that comes, while the new system of managing with the queen excluder will be found so satisfactory that it is safe to say that the time is not distant when the hive that cannot be successfully used with it will not be used at all. In fact, the bee-keeping of the future will be reduced to a science, and economy will become one of its first principles. And that economy will not only prevent the building of burr-combs but will be extended to the control of brood rearing against the wasteful and needless consumption of stores that takes place in most of the hives in general use. The queen excluder, in all probability, will be found the only means by which these desirable ends can be met.

(To be concluded.)

If the moisture is handled as it should be in a modern hive, cold weather will not injure the bees in the least. If they are well provided with wholesome food, a long duration of extremely cold weather will not harm them. The slickest manner of ridding the cluster of moisture that I know of is a thin outside case without packing, and a thin, unpainted brood-chamber covered with a cushion.—*Alley.*

We will send the BEE-KEEPER from now until January 1st, 1892 for 25c. *Subscribe now.*



GENTLEMEN: The time is now at hand for ordering our supplies for the coming season. The goods I ordered of you last year arrived in the best possible condition and gave good satisfaction, and I take great pleasure in recommending your goods to all who are in need of supplies. The demand for supplies this spring is good, and my old customers, and many new ones, are ordering from me.

Bees did very poorly in this section last year. In the first place, they did not swarm until late, and half of them did not swarm at all, so that many bee-keepers got discouraged, but my motto is, "try, try again."

I am wintering about fifty stands, most of them in the dovetailed hives. I winter on the summer stands and have good success, not having lost a swarm from cold in three winters. My wife and I take great pleasure in working our bees, and by the way, a woman is a great help in the apiary, at least mine is.

The sample copy of the BEE-KEEPER is just grand, and I think one number is worth the price of the whole year. I expect to send you some subscribers soon.

The outlook is good for the coming season, and I expect to do well with my bees.

E. E. LAFLER.

West River, N. Y., March 3, 1891.

[We are not surprised that you have had good success in wintering on the summer stands without any outside

protection during the past three years, as we have had exceptionally mild winters. We think without doubt, you would have had far different results had there been a long cold snap at any time.—ED.]

ED. BEE-KEEPER, DEAR SIR: Last year gave us a short honey crop, and as a consequence my bees will starve out if not fed. I have 250 colonies in good condition; they are in different localities. I think this is the best plan to run the bees; if they fail in one location, they will very often gather in another. I had last year fifty colonies away five miles distant, and they secured a good crop.

In this country we have spring dwindling considerably. I use the Simplicity hive, and the tiering-up system. Last year I took 5000 lbs. in one pound sections, of excellent quality.

I like Brother Doolittle's plan of hiving all swarms on the old stands, a plan I adopted seven years ago; a splendid plan, as you are not bothered with second swarms.

As a rule, I feed but very little. I take honey from the strong and give it to the weak. This is the only way you can keep bees from getting in advance of the queen.

Our bee pasture in this valley is blue thistle and white clover; the two make excellent quality of honey. I hope we will have a good honey crop the coming season.

I will send my subscription to the BEE-KEEPER the first of April, as my subscription expires with another journal then, and I must say I like the AMERICAN BEE-KEEPER the best.

With good wishes, I remain,

Yours truly, WM. STRUDER.

Millwood, Va., Mch. 10.

ED. AMERICAN BEE-KEEPER, DEAR SIR: I think I can tell your readers who make their own foundation, a better and quicker way to dip the wax. For section foundation I have four pieces 26x9 inches, $\frac{3}{4}$ thick. I dip these sideways once to the center of board and then let it drip, turn over and dip the other side to the center, leaving a space uncovered of $\frac{1}{2}$ inch. This gives four sheets to the board, and the sheets are more even than when dipped lengthwise. The dipping board should be perfectly flat; the sheets break away readily, and are very even in thickness. By the old way of dipping lengthwise, of course the sheets are thin at the top, and thick on the bottom. For brood frames the dipping board should be 18x18x $\frac{3}{4}$. In turning the sheet, the hand can be used to hold the upper part. Have the tank 25x11x3 inches deep.

H. DWIGHT.

Friendship, N. Y., Feb. 20, 1891.

EDITOR BEE-KEEPER.—Will you please allow me to enter my indignant protest against the further notoriety of the discussion concerning adulterated honey which took place at the last Michigan Bee-keeper's Convention, and which was referred to by Mr. Heddon on page 36 of the BEE-KEEPER. This matter has been published broadcast and each separate, single and collective assertion and *inuen*do of that Michigan resolution is simply a monstrous slander, outdoing in its effects even the "Wiley lie." You may say that I have in my possession the letters of the leading men of that convention, admitting in substance that they did not know of a single instance of adulterated extracted honey upon the market.

That resolution was based wholly upon fiction, a shameful untruth.

Yours, etc., HARM. SMITH.

Ionia, Mich., March 11, '91.

[Friend Smith speaks in rather strong terms, and there is no uncertain sound to his remarks. We have no definite knowledge of there being any adulterated extracted honey on the market at present, but there doubtless has been from time to time. We would like to hear from some of the other members who were present at the Detroit Convention.

Flowers.

What man, woman, or child is there that does not admire flowers and beautiful plants? But few have any idea of the magnitude the business of growing them for seed or sale may become unless intimately connected with the business. John Lewis Childs of Floral Park, Queens Co., N. Y., has some of the most beautifully located grounds in the country, situated as they are upon the most fertile and picturesque Long Island. After viewing his establishment it is easy to believe that it is one of the largest for the growing and sale of seeds and plants by retail in the country. Mr. Child's annual catalogue is handsome and useful and is many times worth the cost of sending for it. It gives an extremely large list of ornamental flowering plants and shrubs to select from, and will suit the most fastidious. For further particulars read his advertisement in another column.—*Adv.*

The total value of honey imported into the United Kingdom during January, 1891, was 2,557 £.—*B. B. J.*

If you have not received one of our large revised Catalogues and price lists for 1891 send your name on a postal card and we will mail you one.



Little Ah Sid.

Little Ah Sid
Was a Christian kid—
A cute little cuss, you'd declare—
With eyes full of fun
And a nose that begun
High up in the roots of his hair.

Jolly and fat
Was this frolicsome brat
As he played through the long summer day;
And he braided his cue
As his father used to
In Chinaland, far, far away.

Once o'er the lawn
That Ah Sid played on
A honey-bee flew in the spring,
"Melican butter-fly,"
-Cried he, "Ki Yi,"
"Me catchee and pull off um wing."

Then with his cap
He gave it a rap—
This innocent, busy bee—
And put its remains
In the seat of his jeans,
For a pocket ne'er had the Chinese.

Down on the green
Sat the sardine,
In a style that was strangely demure,
And said with a grin
That was brimfull of sin,
"Me mashee um butterfly, sure."

Little Ah Sid
Was only a kid,
Nor could you expect him to guess
What kind of a bug
He was holding so snug
In the folds of his loose-fitting dress.

"Ki ; Ki-yi-pi-ye,"
Ah Sid cried, as he
Rose hurriedly up from that spot,
"Ki-yi ; Yuk-a-Yan,
Daa um Melican man—
Um butter-fly belly much hot."

DOUBLE-CASED HIVE.—We have elsewhere expressed a strong preference for a light form of hive, with an outer casing of similar light wood and a pretty roomy space between it and the hive proper. It is just a question whether our views regarding the need of this space being filled with warm material or not will require modifying, but so far as we have deemed anything beyond the simple air-space itself unnecessary. And the terrible severe winter through which our bees are now passing—unprotected by anything except the bare hives and outer cases—will surely test the point thoroughly. We never liked the littery mess a bushel of chaff or cork-dust makes when removing it—so far without bad results; and if the bees are all right this year, we shall consider that chaff packing may well be dispensed with.

Just one word of advice in conclusion: Never attempt to winter a lot of weak colonies. Six strong stocks will do far more work than a dozen weak ones ; therefore, when stocks cover less than five frames in September, join two together before packing up for winter.—*Bee-Keeper's Record*.

DOUBLE VS. SINGLE-WALLED HIVES. We have on another page referred to the fact of our own hives and bees being, through circumstances beyond our control, left to take their chances of wintering safely, without being in any way specially prepared for it. They were thus left until the 31st of January, when an opportunity offered for paying them a visit. Having reduced our apiary to ten stocks on coming south, it was not a big job, but the examination resulted very satisfactory

in every way. First let us say that one colony was dead! This is a rather paradoxical method of arriving at satisfactory results, and yet it is none the less true, for had the same occurred to any one else we would—in effect if not words—have said, ‘Served you right.’ The colony in question was a fairly good one when last we saw it, in September, ’90; but in the coming darkness and haste to catch our train it was inadvertently left without slides to the outer case, *i. e.*, with an entrance about sixteen inches wide; and as it faced nearly east, some idea of what the bees had to stand may be imagined. In consequence, they perished, with plenty of stores about them, from the piercing cold. The other nine colonies are all in good health, and in one hive young bees were seen. Now, when it is considered that these nine stocks are in thin, single-walled hives, with equally thin outer cases, and with no packing between hive and case, we shall conclude that for winter protection nothing more is required.—*British Bee Journal*.

“SPRINGING BEES.”—Why not say springing bees as well as wintering bees? Most any one with a proper hive can winter bees, but it requires some experience to spring them and to bring the colonies up rapidly early in the season.

In order to get brood-rearing started early in the spring the brood-chamber should be warmly packed, and if short of stores, food in some form should be given. I know of no better food than pulverized sugar and honey, and no better way of feeding it than by placing a piece of heavy paper on the frames, and then putting the food

right upon the paper, and letting the mat and cushion come directly down upon the food. As this food is in a semi-solid form, it will not excite the bees as liquid food does. There is no danger of the moisture from the colony softening the food so that it will run and daub the bees. The bees will cluster close to it and will not be in the least disturbed by its presence in the hive.

Later on, and when the weather is warmer, in fact so warm that the bees can fly about every day, it will do to feed liquid food. This can be done with most any kind of a feeder that has been recommended in the various bee-papers. Liquid food may be granulated sugar and water; say to each three pounds of sugar, add one pound of water.—*Am. Apiculturist*.

SOME MISTAKES OF SOME BEE-KEEPERS.—To think that a man who has never been able to make a living at anything else, who has failed in everything else, can go into the bee business and make a “grand success” of it.

To try to keep a hundred swarms of bees through the summer with the same care that twenty-five should have, and on a range where fifty would starve.

To neglect proper care in the winter.

To rob them of all their honey and then curse his “luck” in bee-keeping.

To use all the patent hives and appliances, just because a smooth tongued agent tells him to.

To ventilate his hives by cracks in the roof and knot holes in the bottom.

To fail to put on proper cases for surplus honey at the right time.

To let the grass and weeds grow

around his hives so that he can hardly find them.

To use old box hives that cannot be seen into only by breaking out the old comb.

To allow the dirt and filth to accumulate on the bottom boards and become a breeding place for moths.

To buy an extractor before he knows whether to extract from the small lb. cases or the brood chamber and brood frames.

To boast of his knowledge and then talk about the drones laying eggs.

To try to keep bees and not take at least one good bee paper.—*Neb. Bee-Keeper.*

It is almost an axiom amongst gardeners that if strong, hardy, and robust plants are desired, they should be sought to the northward of the garden into which they are to be imported. They have acquired an amount of vigor which makes their cultivation in the south much easier. They are able to brave more adverse climatic conditions than their kind obtained from warmer districts. Should not, then, the same rule apply to bees obtained from Scotland or the northern counties and imported into the south, where the strain is sometimes found to have become effete and worn out, liable to be attacked by enemies ever on the alert for the extermination of stocks unfitted to carry on the species? We find the poor-man's bees living on—just, and only just, able to maintain their place under specially unsuitable surroundings.—Winter ends in the south, rapid consumption of stores and breeding follow, with its wearing-out labor, whilst yet the northern bee continues its hybernation; but presently the hot, slanting

rays of the spring sun strike the snow-sheets, and, as if by magic, hillsides are starred with blossoms, the mountain rills ripple down our heather-clad stretches, and roll on in increasing volume over sheets of spongy sphognum, through peaty sweeps on which the bilberry and crawberry have managed to secure a foothold, down rocky torrent gaps, where countless saxifrages and mosses are waiting for aid from above, past banks of minute flowering plants, to its end, the sea—if one may call any part of an ever-rolling cycle an end. The cackle of the disturbed moor-game, the delightfully welcome boom of the ubiquitous humble-bee, tell of a new year, and as we approach the homestead, the welcomest sound in all nature to the bee-keeper greets his ear. The steady hum-tone about his hives gives him assurance that once again he is blest in his solitude with a society and companionship (next to wife and family) most welcome of all—more welcome in his lonely lot than even the faithful dog, the shepherd's trusty help.—*B. B. J.*

We expected to describe and illustrate Mr. Henry Alley's swarm-hiver this month, but we were unable to obtain an engraving of it in time to do so. We will have it next month. We will say here that it is the best device yet invented for the purpose of securing swarms with certainty and little trouble.

The first number of the *Missouri Bee-Keeper* has been received dated March 1st. It is published by E. F. Quigley, at Unionville, Mo., and presents a neat appearance, while its contents are very good for the first issue.

The American Bee-Keeper,

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THE AMERICAN BEE-KEEPER,

FALCONER, N. Y.

 Subscribers finding this paragraph marked with a blue cross will know that their subscription expires with this number. We hope that you will not delay in sending a renewal.

 A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

The winter is past, and "spring, gentle spring" approaches. The winter has been generally a mild one and bees as a rule have wintered well. Owing to the very poor honey season of 1890 many colonies went into their long winter home with insufficient stores, and have perished, but after all, it can be stated as a fact that bees "done well" almost everywhere, and today there are a great many more swarms in the land than a year ago. But all danger is not by any means past, and great care should be given each colony for the next four weeks. If your bees are in the cellar it will be hardly safe to put them on the summer stands before April 15, unless they become so uneasy that you are compelled to do so, or if in chaff or double walled hives outdoor do not remove the chaff or winter case before that time. When placed on summer

stands the entrance should be contracted and the brood nest kept as warm as possible. As bees consume large amounts of stores at this season, great care should be taken that they do not starve. Everything points to an early spring and a splendid honey season.

The Illinois State Bee-Keeper's Association, at its annual meeting in February, decided to ask the State Legislature to appropriate \$5,000 for the collection and maintenance of a bee-keeper's exhibit at the World's Fair in '93. This is a timely move in the right direction, and should be quickly followed by many similar actions on the part of the various associations everywhere. There is none too much time to spare.

There has been more or less agitation of late as to the advisability of using foundation in sections. There should be no doubt of the matter, as the fact that over 100 tons were used last season by the proverbial 300,000 bee-keepers in this country, show that many consider it indispensable. We hear you say, "they sell foundation." Yes, we make and sell tons of it every year, but that does not influence us in giving facts.

Several thousand copies of the BEE-KEEPER are sent this month to those who are not subscribers, but whom we hope will appreciate the value of our journal sufficiently to subscribe.—Please examine this copy carefully, and if you think it worth 50c for 12 months kindly send us stamps or a postal note for that amount and receive it regularly. No more sample copies will be mailed to you. *Subscribe now!*

We have mailed our new catalogue to all our customers and friends, sending out 17,000 of them, but it may be that some of you were overlooked; if so please do not hesitate to ask us for a copy and it will be gladly mailed to you.

Bee-keeping is on the rise, and very rapidly if we may judge by the number of new bee journals and supply dealers that have put in an appearance with the approach of the season. Well, if there are enough bee-keepers in the land to prosper all of them we shall be somewhat surprised, but we hope our surprise will be forthcoming.

There are no less than *four* bee-papers claiming to give the "cream of apiarian literature." Some enterprising person should buy them all up and start a "creamry." They would be better than a herd of "Jerseys," even they don't give *cream*.

The new seedling potatoes which Mr. Jacob T. Timpe, of Grand Ledge, Mich., is introducing, are without doubt destined to take the lead. All reports concerning them are most flattering, and although his prices may seem high, they are not, when compared with those of leading seedsmen. We assure our readers his offer is a liberal one, and an honest one. See ad. in another column.

This Journal is published for the entertainment and edification of *every one* of its readers—not for a few. We endeavor to publish only such articles as are of interest to the bee-keeper of moderate attainments. We wish all our readers would send us short articles, giving their experience in any particular department of bee-keeping.

By the way, we noticed in a certain farm paper recently the ad's of three prominent bee supply manufacturers, each claiming to be the "largest in the world." This is an age of "big" things, but we fear the readers of that paper will conclude that some one is doing considerable "bluffing."

We wish our friends, and especially our fellow editors would refer to us as the "*Am. Bee-Keeper*," not the *A. B. K.*, as there are the *A. B. J.*, *B. B. J.*, *C. B. K.*, and *N. B. K.*, and nine readers of every ten will confound *A. B. K.* with one of these if thus referred to. If the *AM. BEE-KEEPER* contains anything worthy of repetition, please give us full credit for it.

The Ionia Mich. Bee-Keeper's Association meets May 6th, 1891, and will have an exhibit of hives and apiarian appliances open to all. Samples for exhibit can be sent to Harm, Smith, Ionia, Mich.

We are in receipt of No. 2 of the "Bread and Butter Series," by Geo. R. Stockwell, Providence, R. I. The subject is "The Double Hive Non-Swarming System." It is well worth reading. Price, 25c.

We will be glad to publish items of experience which our readers may send to us. Please let us know about any happenings out of the usual order of things; they will be of interest to us all.

If this copy of the *BEEKEEPER* is marked "sample copy" it was sent free, and unless you subscribe you will not receive another. Send in your subscription at once.

SEASONABLE SAYINGS.

BY E. L. PRATT.

The hives should now all be overhauled to see that the bees have plenty of honey and that they each have a queen. If they are not well provided with honey, feeding should commence at once. This is a very critical point, for, unless they have plenty of food on hand brood rearing will not advance as it should. On the number of eggs laid a little later will depend the strength of the colony and on the strength of the colony will depend the harvest. If any of the bees are found queenless they should be provided with one at once or be doubled up with some weak colony that has a queen. It is better, however to supply queens if they can be had. As soon as the bees can get honey from natural sources they will refuse the food given and that is just the time to discontinue feeding when once commenced in the spring.

If you live in a district where pollen can be gathered early there is no need of dabbling with flour, but if pollen is slow where you live, set a box of common wheat flour in some warm, sheltered nook near the hive and see how fast the bees will lug it away. To start them at it drop a little piece of honey onto a board inside the box.

Another thing that should be attended to now and that is to get a list of all the supplies you will need, and dispatch it at once to your dealer so there will be no delay in having what you will need in readiness. On such articles as honey boxes, fdn., and the paraphernalia that goes with them,

there surely ought to be no "putting off until later." Such articles should be on hand.

Should the season be a poor one for honey let me tell you what you can do to get a profit from the bees. Push them along for swarms by feeding, and harvest a crop or two of wax from each colony. Wax is becoming a very scarce article and the price ranges extremely high. Unless we make a little very soon it will be beyond our reach in price. With clean wax at 30c, as quoted in New York, we could make a fair thing at wax production. I have no special plans made for procuring large quantities of wax, but have experimented some and am quite sure it can be done to a profit. If the season proves a failure in your district give the thing a trial and report the result. You can at least end the season with a good increase of stock for another season.

Hundreds of bee-keepers have asked me for a good safe method of securing forced increase. One that has always been very successful with me is by the "jumping plan." From a strong colony take two frames of brood, in all stages, with adhering bees, and place them in an empty hive; from another *extra* strong stock draw two frames of bees that have commenced to gnaw out, and place one frame on each side of those in the new hive. Close the four combs to one side with a division-board and set the hive on the stand occupied by the colony from which the brood in all stages was taken. All operations of this kind should be done in mid-day and the bees should be smoked thoroughly. Should more bees leave the colony moved than enough to care for

the young, the position of the two hives should be reversed again until both are well stocked. At the end of the third day a young laying queen should be introduced to the new colony and full sheets of fdn. added to the hives from which the brood was taken. In about fifteen days the operation can be repeated doubly and so on until all the colonies desired are secured. Fdn. should be given to the new colonies thus formed as fast as they are able to cover it. This is where the queen-breeder comes into play and if the queens are purchased of a first-class breeder your new colonies will be of the best. Directions for introducing are sent with each queen. By the present method it is folly to lose a queen by introducing. Simply follow the printed directions.

To the beginner my advice is not to buy bees by the pound to start with. Better send for two or three frame nuclei if you cannot afford full colonies.

In selecting a hive by all means take that holding the standard frame.

A standard frame is that whose inside dimensions will take eight standard boxes. The standard box is $4\frac{1}{4} \times 4\frac{1}{4}$.

Better results in comb honey can be obtained with seven standard frames to the hive.

When you see honey all capped in the brood frames during the honey flow or after, take it with an extractor. Honey left on the hive after the honey flow will be wasted. In extracting, however, be careful not to throw out the brood. It is better to select those combs having very little brood which will generally be the comb next to the

walls of the hive. If there is not a great quantity in the central combs it had better remain in the hive. Be sure to feed those colonies extracted too closely if the bees can not make a living. When fall comes you have honey to feed back for winter if the bees do not "fill up," which is more pleasant than to buy sugar. If the bees do fill up well for winter on fall bloom, why, simply sell the honey and it will be just so much gained.

I like my hives set about eight inches from the ground, on stands for the purpose. It does not make my back ache to work the bees at this height. As for bees crawling into a hive set low, that is a lunacy. If a bee hasn't the strength to get into a hive set eight inches from the ground I don't want her. In our climate we have heavy snow storms and I like to have my bees above snow; thus the stands serve a double purpose, and we have none of that "raising" and "lowering" business. Then there is another reason that I will tell you of some other time.

Yes, Bro. Merrill is correct in his belief "that the winter cases will be in general use in the near future," and they will be made of thin stock with movable tops. Those thin shells that Earnest is thinking about to cover down over the hives will not do the business. Winter cases should be made so as to protect at all times, and they should be constructed so as to be convenient as well as efficient.

Bro. M. might have added, "and hives of thin stock will soon rule the market," for in combination with a desirable winter case they are the

nonpariel of bee hives, the *ne plus ultra* of construction.

The closing paragraph of the editors' defense with the G. B. Lewis Co., in last BEE-KEEPER, proves to my mind that the managers of the Falconer Mfg Co. are true christian men. What a shame that such a good man as Bro. Newman should have so unfortunately got mixed up in such an envious piece of business. I am surprised that the G. B. Lewis Co. took such an unwise course in the matter. Is it not possible that the whole matter was a series of misunderstandings?

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

NEW YORK, Mch. 20.—There is no comb honey in the market, and a limited amount of extracted. Prices of comb, 15¢ to 16¢. Extracted California 7¢ to 7½¢. Florida, 7½¢ to 8¢. Beeswax is in good demand and very scarce. Prices 28¢ to 31¢, and slowly advancing.

F. G. STROHMMEYER & Co

NEW YORK, Mch. 19.—The demand for extracted honey is good, with large stock of California on hand. No comb on market. Price of extracted, 6½¢ to 7½¢. Beeswax is scarce and in good demand at 27 to 30¢, according to quality. Foreign wax is arriving in large quantities and finds ready sale.

HILDRETH BR. S. & SEGELKEN.

ALBANY, N. Y., Mch. 20.—The demand for extracted honey is good, for comb moderate. Supply of both quite light. Prices, comb, clover 15 to 18¢, buckwheat, 11 to 13¢. Extracted, light, 8 to 10; dark, 7 to 8¢. Supply of beeswax very small. Prices, 30 to 32¢. Comb honey is not quite all on the market yet. Good supply of light extracted. Dark wanted.

CHAS. W. McCULLOUGH & Co.

ALBANY, N. Y., Mch. 21.—Comb honey and dark extracted in good demand with moderate supply. Prices, comb, 13 to 16¢. Extracted, 6 to 8¢. Beeswax in good demand at 28 to 30¢. There will be very little if any comb honey to carry over this season. Light extracted has accumulated some.

Wholesale commission. H. R. WRIGHT.

CINCINNATI, O., Mch. 20.—Demand for extracted honey is good at 6 to 8¢ on arrival. There is also a fair demand for comb honey at 15 to 17¢ for choice in the jobbing way. Demand is good for Beeswax at 24 to 27¢ for good choice yellow.

CHAS. F. MUTH & SON.

CHICAGO, ILL., Mch. 20.—The demand for honey is good for this season of year. Price of comb, 1 lbs. 15 to 17¢, 2 lbs. 13 to 14¢. Buckwheat, 12 to 13¢. The supply of Beeswax is not equal to the demand. Price, 28 to 30¢.

S. T. FISH & CO.

CHICAGO, Ill., Mch. 22.—Demand for honey is light with small supply. Prices of best white 17 to 18¢; dark, 15 to 17¢. Beeswax in good demand at 27 to 29¢. Supply larger than for many months.

161 South Water St.

R. A. BURNETT.

Boston, Mass., Mch. 21.—Honey is in light demand at 18¢ for comb, 8¢. for extracted with small supply. Beeswax in fair demand with light supply, at 28 to 30¢. White 1 lb sections will do well if sent to us soon.

BLAKE & RIPLEY, 57 Chatham St.

St. Louis, Mch. 16.—Demand only fair. Supply good. Price of comb 12 to 15; Extracted, 6 to 7½. Beeswax, demand fair; Supply light. Price, 27¢ for prime.

D. G. TUTT GRO. CO.

KANSAS CITY, Mo., Mch. 16.—Demand for honey light; supply fair. Price of comb 14¢; fancy 17¢; fair 15 to 16¢; extracted 6 to 7½¢. No stock of Beeswax in the city. Price, 27 to 28¢. High prices have kept the demand light all the season.

HAMBLIN & BEARSS, 514 Walnut St.

Circulars and Price Lists Rec'd.

Geo. E. Hilton, Fremont, Mich., supplies.
Berlin Fruit Box Co., Berlin Heights, O., supplies.
Jenkins & Parker, Wetumpka, Ala., supplies.
The D. A. Jones Co., Beeton, Ont., supplies.
A. I. Root, Medina, O., supplies.
Chicago Bee-keeper's Supply Co., Topeka, Kan supplies.
Dr. G. L. Tinker, New Philadelphia, O., queens and supplies.
A. A. Byard, West Chesterfield, N. H., queens and supplies.
S. F. & L. Trego, Swedona, Ill., queens.
Jacob T. Tumpe, Grand Ledge, Mich., queens.
W. H. Laws, Lavaca, Ark., queens.
Levening Bros., Wiotia, Ia., supplies.
C. F. Muth & Son, Cincinnati, O., supplies.
Roe & Kirkpatrick, Union City, Ind., supplies.
F. H. & E. H. Dewey, Westfield, Mass., queens.
J. M. Young, Plattsmouth, Neb., queens.
Miller Bros., Bluffton, Mo., queens and supplies.
J. P. Moore, Morgan, Ky., queens and bees.
St. Joseph Apiary Co., St. Joseph, Mo., supplies.

The prices on the following goods were omitted from our present price list:

PRICE LIST OF NOVICE EXTRACTORS.
No. 4.—For all frames 13 inches or less in depth, and 13½ inches or less in width (weight 35 lbs.) \$7 00
No. 5.—For L. or Simp. frame standing on end, or and other frame not over 9½ in. depth, or 18½ long, top-bar 20 inches, (weight 35 lbs.) 7 00
No. 7.—For frames deeper than the L., but not over 1¾ in. deep, (weight 40 lbs.) 8 00
No. 10.—For still deeper frames, not over 13½ in. deep or 18½ wide, (weight 40 lbs.) 8 00
Any above numbers with upright gearing, 50¢ extra
" " " " milk-can handles, 25¢ " "
" " " " 60 lbs. space below, 50¢ " "
" " " " 100 " " " \$1 00 " "
" " " " made for four frames, \$3 00 "

PRICE OF DIBERN BEE-ESCAPE.

Cones only, each, ... 20 cents
In lots of ten, ... \$1 80
Postage on cones, each 3 cents
Board for hive complete with e-escape, each 35 cents
In lots of ten, ... \$3 20
(In ordering board complete mention the kind of hive you wish to use it on.)

Honey boards in the table for Nos. 12 and 13 should read *wood-bound zinc* instead of *slatted wood zinc*.
Alley's Swarm Hiver, each, ... \$1 00

Clubbing List.

We will send the AMERICAN BEE KEEPER with the—

	PR. PRICE.	BOTH.
American Bee Journal,	(\$1 00)	\$1 35
American Apiculturist,	(75)	1 15
Bee-keeper's Review,	(1 00)	1 35
Bee-keeper's Advance and Poultryman's Journal,	(50)	90
Canadian Bee Journal,	(75)	1 15
Gleanings in Bee Culture,	(1 00)	1 35



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VOL. I.

MAY, 1891.

NO. 5.

Feeding Bees.

BY MRS. L. HARRISON.

I doubt very much the utility of feeding bees, in the early spring, unless to prevent starvation. September is the best month to do spring feeding, and be sure that each colony has an abundant supply. Where there is a dearth of honey, following fruit bloom, it will pay big money to feed, provided there is a flow of nectar from white clover. Universally in this locality, during the interim between fruit bloom and clover, there is a flow of honey from dandelion, black and honey locusts and wild cherry. It is poor economy to feed bees when they can gather sufficient for their daily wants, and I noticed one spring a colony that was fed a great deal that was no more populous when clover bloomed than others that had depended entirely upon their own exertions for a living.

Last spring, in talking with a bee-keeper of small means, he said, "I would like to spend my time with my bees, feeding and building them up strong for the clover bloom, but I can not take the risk. If I work at my trade, shoe-making, I'm sure of something, but if I run in debt for sugar, and spend my time feeding them, and

get no returns, where will I be?" This man has over two hundred colonies of bees, and when there is a flow of honey his wife and children all turn in and secure it. It is true that there has not been a full crop of honey in this locality for five or six years, but one season he made more money from his bees than he had accumulated in his lifetime at his trade.

EXTRACTING FROM THE BROOD-NEST.

In "Seasonable Sayings," for April, I find the following: "When you see honey all capped in the brood-frames during the honey flow or after, take it with an extractor. Honey left on the hive after the honey flow will be wasted." O, please don't "take it with an extractor." How do you, or I, or anybody know whether they will be able to fill these combs again before frost? How will it be wasted if left in the hive? Bees seem to regard their sealed stores as a sacred trust, and never open it unless driven to it. Is it not a little cruel to whirl around the bees babies in an extractor, scare them half to death? Does it pay to extract from the brood-nest and have to feed back? Is not the laborer worthy of his hire? Should not the owner be satisfied with what is stored

above the brood-nest, and leave the workers a part of the harvest?

SPRING WORK.

To make bee-keeping a delight we must be in readiness for the busy season. All hives should be ready for use, old ones cleared, repaired and painted, roofs inspected to be sure that there are no leaks. An inventory taken of sections, and orders sent for more; better have a few thousand too many than not enough. The smokers examined to see that all is right, and fuel provided. Hats, nails, gloves, etc., inspected and ready for use. The honey house over-hauled and all refuse honey fed to the bees. For several years I have had a regular feeding ground in the open air, and I have never induced robbing: they expect to find it there and nowhere else. All scrapings of wax melted up, and put into shape for sale, or to trade for foundation. It is surprising how much beautiful wax will be made from scrapings of honey boards, sections, hives, etc. Old sections make good kindling, even after the wax is scraped off. Have your dishes all right side up, so if it rains porridge you will catch some.

Peoria, Ill.

"Instructions to Beginners."

BY M. H. DEWITT.

TO GET OUR COLONIES STRONG.

To get a large crop of honey we must have our colonies strong in numbers by the time the honey harvest begins. The brood-combs should be filled with brood and the hive overflowing with bees. To get them in this condition we should begin feeding a little daily about the time the first pollen comes in, or if they have

plenty of sealed stores we can accomplish the same result by uncapping some honey every few days. If you have to feed do not feed in the day time. Feed at night just after the bees stop work. Do not feed at the entrance. Feed in the hive above the brood. Fill your feeders at night, set them in the hive, and before morning all the feed will be taken down. If you feed to stimulate brood-rearing feed only one-half pint thin sugar syrup daily. The queen will commence to lay and in a short time your bees will be good and strong and ready for the honey harvest when it comes.

Be careful that you don't get your bees to robbing while feeding them as above described.

ARTIFICIAL POLLEN.

When the spring is late and the flowers are slow about coming out, it is a good plan to feed the bees flour for a substitute for pollen or bee-bread. When the days are warm place the flour in boxes or on boards, and it is interesting and amusing to see the bees load up with the flour and carry it to their hives. Unbolted rye flour is usually recommended, yet some say unbolted wheat flour is just as good,

RAISING COMB-HONEY.

If you raise honey and extract it from the combs so as to return the empty combs to the bees to be filled again, you will raise more than twice as much after you get a sufficient supply of empty combs to keep your bees at work. If you raise comb-honey only for your own use, it will pay you to raise it in large frames six inches deep and the full length of the hive. If you raise it for sale it should be raised in one pound sections. If you

give your bees a good supply of empty combs before the beginning of the honey crop and keep them at work they will rarely swarm. But if they once find themselves crowded and get the swarming fever nothing will keep them from swarming.

TO GET THE BEES STARTED IN THE SECTIONS.

Have your sections all ready before the honey flow begins, with good starters of comb foundation in them, which is very quickly done with foundation fastener, or if you have no such machine you can do very good work with a common table knife. Lay the edge of the strip of foundation in the middle of the top part of the section. You can then, with the point of a stiff knife, press the edge of the comb so firmly against the wood that the wax will adhere to it. To do this you must choose a warm day; if it is too cool the wax won't work. To get the bees started to work it is best to put in some sections with some comb in them. If we have any unfinished sections left over from the previous season, which all bee-keepers will have, these are very enticing to the bees, and will not fail to start them at work, especially if the honey flow is good and the bees are strong in numbers.

SPRING DWINDLING.

This I think is caused mostly by bees going into winter quarters in poor condition. Many beginners get anxious to increase their bees and divide too much, and consequently go into winter quarters with their bees weak in number, and if the spring is late and backward their bees will dwindle out or die off with old age before they can rear brood enough to recuperate ;

and when the bee-keeper finds his colonies all dying off he is likely to want to sell out and go west, with blasted hopes. To prevent it we must begin the season before by building all our colonies up into good strong ones, and we will not have much dwindling. Keep all your colonies good and strong.

Sang Run, Garrett Co., Md.

“Friend” in Apiculture.

BY F. H. DEWEY.

“I do not like to be addressed as “friend” by a man I never saw. A community of sentiment on one particular subject does not warrant men in employing it when speaking of or to each other. Nobody uses it under such circumstances except American bee-keepers.—(*contrib. in C. B. J.*)

Are bee-keepers over sentimental in the general address “friend,” is it cajolery, and are the class insidious flatterers, or is it a misnomer? Very few men think seriously, especially non-bee men, as the writer above, and many who are new in the pursuit wonder at the unusual salutation. Here are utter strangers, half and more than half of the continent between them, and one without an introduction or without a seconds intimacy steps into the private apartment which each one has in his sentiments marked “friendship,” and there takes his place with the assurance of a familiar acquaintance, upon the sole pretext of like business, because, forsooth, each know the same class of insects. A merchant or mechanic would look at this as undue familiarity, it might be insinuation or officiousness, the former implying a selfish end, the latter either self-conceit or contempt. But we could be hardly warranted in deriving

so general a use of this bee-keeper's appellation, "friend," from any one of these sources. If the apairist has anything to gain by flattering, he will use the epithet upon his customers and not upon co-laborers, and again, the class has always been noteworthy for soundness of mind and mutual regard. Insanity and idiocy have never been especially charged to the business.

In what other occupation do we find competitors sincerely calling each other "friend," and how seldom it is that two of a trade agree. Apiculture then must be widely different, and in its present stage at any rate, more humanizing than other pursuits, for nobody would presume to affirm that this sentiment of common interest strong enough to lead a sensible man to call a stranger "friend" arose in his hard head from silly sentimentalism, and it is equally illogical to lay it to unworthy motives, for we are speaking now of many thousand men.

Is not contention among bee-men an emulation rather than a competition? We are vying, not battling, one with another; the business is more an art than a trade because of several conditions. The territory used must needs be broad tracts and private forage. Two parties realize that a fair pasturage for one is a pitiable failure for two. Bee-keepers are comparatively so few, and area is so abundant, that interests seldom clash in production. In the market, nature arbitrarily settles the price, abundance or scarcity fixes the figure, for demand is generally uniform. If there is any personal competition, it is limited to a few weeks in the fall. Throughout the business there is no chance for widely

mutual animosity; the few who cut the price of honey cannot affect the mass. If we could build comb and manufacture honey, how long would human nature maintain between man and man the title "friend?"

In the present methods each is striving to make real his idea of excellence; the bees turn off the daily routine of manufacture, they are busied with the drudgery that often hides the aim of labor. We must calculate, but in this it is not a strife in calculation—my arithmetic every hour against my neighbor's arithmetic; if we meet in the market it is generally as artist meets artist, and the public awards to the best production the prize,—the extra price.

Again, the literature of apiculture has fostered the natural fraternal feeling by the liberality of journal to journal, the encouragement of colloquial style in the practical contributions, and the prominence and assistance given the chief fraternizing element in bee matters, the Convention.

When the "community of sentiment" is strong and genuine, all who have a hand in the work are "friends," Masons, Odd Fellows, and so on. R. R. engineers and co-religionists who have never met, regard and speak of each other as friends; yes, they use a more intimate word. Now we can detect the difference between friend and my friend, the partner and companion of my thoughts and feelings, and the person who stands with me only on common ground in business sentiment. We need another English word for the personage; friend is the only term the bee-keeper can fitly use.

When pasturage becomes narrowed

and the marketing sharper, the methods so developed that the ideal product will call out the remark: "That is worth 15c" instead of the exclamation: "That is fine honey," and the journals begin to call each other "esteemed contemporary" and conventions grow into clan and faction conclaves, we will probably not speak and write of one another as friend this and friend that. Then will come the specious courtesy, "my respected sir."

The Wood-Zinc Queen Excluder.—How to Construct and use it.

BY DR. G. L. TINKER.

(Concluded from April Number.)

There is one other use of the queen excluder that has not been referred to by any other writer. In all hives with a large brood-chamber after the main harvest from white clover and basswood there will be usually a large amount of honey in the brood-nest, much more, if economically used, than is necessary for winter. Beginning about the last of July all queens lay more freely and generally start a second lot of drone brood. As the honey in these large brood-chambers is stored close to the brood and is readily available a large amount of brood will be reared whether there is a prospect for a fall flow or not. The bees reared will be old for winter and if there is a failure in the fall crop, as there is in most localities in the Northern States, there will be no trouble about getting rid of any surplus in the brood-chamber not required for winter. Finally, on the first of October, when the brood is hatched out, there will be no more

bees than in hives with a smaller brood-chamber.

My belief is that thirty pounds of honey is not too much for winter and spring, and if it is more than that so much the better if a good part of it is fall honey.

Now, in the use of the two-story hive of brood-chambers, no larger than is recommended, it has been found that one story is large enough for all the necessities of breeding after the first of June even in localities where a fall surplus is usually obtained. By the new system of management advised, with the use of the queen-excluder, the lower story will come out at the close of harvest with little or no honey. The sections being removed the upper story is set down on the queen-excluder and there left, unless there is a prospect of a fall surplus, 'til October, when the excluder is to be removed and the two stories brought together for winter. Should a fall flow occur sections may be put on as before advised, or the upper story may be extracted as preferred. The result of this management, where the excluder is left between the stories after the harvest, is, that the honey that is sealed up in the upper story will not be used in brood-rearing and so wasted as where the same amount of honey is left in one large brood-chamber. Thus the chances are ten to one that the two-story hive has not only as many bees, but more honey on the first of October.

I have witnessed this result so many times that there can be no doubt that the use of the excluder results in the most economical use of any stores that may be left to the bees after the

harvest on brood-chambers of the size stated. It seems that where all sealed honey is placed above the brood and is quite out of reach of the queen that a less amount of brood is reared in the latter part of July and first of August, but there is sufficient brood-rearing later on so that there will be as many bees in the hive with small brood-chambers as in the one with a large brood-nest. Such are the general facts in regard to the use of the queen-excluder and the necessity for a modified hive suited to its requirements in the production of combhoney.

New Philadelphia, O.

Large or Small Hives.

BY WM. G. HEWES.

Whether we use a large or a small hive when working for extracted honey depends on the way the bees are managed. There are two systems of management most in vogue.

First—Extracting every week or ten days, or as fast as the combs are filled.

Second—By adding supers filled with empty combs whenever more room for storing is needing, and extracting all at one time when the honey flow ends.

The first method is the one almost universally followed in California, and a ten-frame Langstroth is generally considered the proper size.

When tiering up is practiced the bees will swarm too much if the hive is small. Ten-Quinby frames for the brood-nest is better than any other size. The surplus frames should be half depth, or about six inches. There are objections to having two sizes of frame in the same hive, but they are

more than counterbalanced by the advantages. Full depth frames are more apt to break when extracting or to melt down in hot weather. The bees, too, go to work more readily in a small-sized super than in a large one.

To sum up: If you have but little time to devote to your bees adopt the tiering up system and large hives, but if able to give them much attention the small hive will do, and if not certain that you will ever want to produce any section honey let it be the eight-frame Laogstroth hive, as that style is the one to which some of the best appliances for producing section honey are adapted.

There has been much vigorous English employed in our bee journals advocating certain styles of hives and systems of management. I am sometimes tempted to think the whole thing foolish when I see fellows with no other knowledge of bee-keeping than to put a swarm in a box, and when the box is filled rob it, getting big crops of honey. The largest crop of honey of which I have heard being taken in California the past season was produced by a man who does not use frames in the brood-chamber—simply a couple of crossed sticks. He has some seven hundred stocks and produced forty odd tons of extracted honey.

New Hall, Los Angeles Co., Cal.

The Central Michigan Bee-Keeper's Association will be held at Pioneer Room Capitol, Lansing, on Wednesday, May 6th. An invitation is extended to all. W. A. BARNES, Sec.,

Lansing, Mich.



Bee-men hail returning Spring,
Then bees and bee-men gaily sing.
Soft balmy breezes gently blow,
And soon will come the honey flow.

Bee-men in May, when it is warm,
Watch hourly for the coming swarm;
Have hives all ready neat and clean,
To hive the swarm and mother queen.

West Toledo O.

JOHN JAMISON.

DOES IT PAY TO USE FOUNDATION?

MR. EDITOR: Locations differ so much even within a few miles that it is a hard question to answer, but in my experience it pays better to use fdn. in getting good straight worker brood combs. I find in this location that strips of starters in the brood chamber or L. frames are not just the thing, (too much drone comb), and with the Alley Queen Trap it is a great draw-back to their working, as the drones fill the traps so fast. Then again, why have so many useless drones? Only on account of the bees having their own sweet will in building so much drone comb. This can be done away with by the use of fdn. The past season I used one-half story hives, and I found with only strips of fdn. in brood frames scarcely a drone comb. In fact, out of fifteen swarms hived in half-stories there was not enough drone comb built to make two full combs or one whole L. frame of drone comb. This point is to be well considered by the bee-keepers who lack the means or lack fdn. at time of hiving swarms. T. J. ASHMEADE.

Williamson, N. Y.

EDITOR AM. BEE-KEEPER: Please find enclosed pay for the AM. BEE-KEEPER until Jan. 1st, 1892. I consider it a very nice bee paper. I have fifty colonies of bees and they are doing well this spring. Our first honey flow began this week from red bud. I see nothing said about this flower in the bee books, so I send you a small spray of the flower that you may see how the bush blooms. I wish you would have some one from the South write for your paper. We do not need cellars to winter in here, and ten frame hives are too large to suit me. I prefer eight frame instead. I consider Italian bees to be the best, although Hybrids are very good and profitable in this locality. Yours, &c.,

J. F. TEEL.

Elmont, Texas, April 12, 1891.

We do not know that we have ever seen any of this flower of which you send, and do not think it grows in this locality. We shall endeavor to have an article occasionally from some bee-keeper in the South, and in fact have two or three such articles now, but have not had the space to print them yet. We will, however, soon.—ED.

DEAR EDITOR: In reading the many interesting notes in your paper a little incident comes to my mind of which I will tell you. During the past season I was going to purchase a swarm of bees of my father, so I set my hive about three rods from the Apiary awaiting the swarm. In a few days I chanced to go past the hive and to my surprise found a good swarm at work in it which had gone in of its own accord.

I noticed an article about "Ants in and about hives," and would say that

we were troubled in the same way until we sprinkled flour of sulphur in their haunts which effectually drove them away

We have a new kind of hive which we are using and they give good satisfaction. It is a quadruple hive, i. e. four hives cornering together in the centre, each containing ten L. frames, the whole surrounded by a chamber filled with chaff. We have an entrance on each end and two on one side, thus leaving the other side free for the attendant. We usually have a roof cover hinged on the entrance side, the same being high enough to admit of two tiers of sections on each hive. The bees in cold weather cluster towards the center, thus keeping each other warm. These hives prove to be a success with Italian bees, and I see no reason why they would not work well with black or any other kind. Yours truly,

G. A. SIMPKINS.

Wellsville, N. Y., April 15, 1891.

EDITOR AM. BEE-KEEPER, DEAR SIR: I have for a number of years been drifting along keeping bees, having from one to twelve colonies, and could never get above that number in the old style of box hive. Some years I would have 25 lbs. and some years 100 lbs. of surplus or more, but often none at all. Never until last year did I have frame hives, and last spring I transferred six swarms from old box into new frame hives with perfect success, and would not exchange one new hive for a dozen of the old style; would rather quit keeping bees entirely. For six years previous I did not get one pound of honey, but last

season from eight hives I got 200 lbs.. I have now twelve frame hives and a good bee book, and am now in a fair way to increase, and shortly will be able to supply my vicinity with honey. I never took a bee paper until this year, and so far I think I would not be without one or two as long as I continue handling bees. Yours truly,

St. Cloud, Pa. S. H. MOSIER.

ED. BEE-KEEPER, DEAR SIR: I received the March number of the BEE-KEEPER and would like to speak a few words in praise of your valuable magazine; I do not think it could be valued too highly as a bee paper. I enjoy reading bee periodicals very much, and think if those interested in bees would read more, it would profit them to do so, but I find there are some men interested in bees whom it is impossible for me to get to subscribe for even one bee paper, much less two or three. They think it is throwing money away. They will keep from four to six colonies, and could get the same amount of honey from three or four if they would read more, but they do not count the cost of those extra hives anything, besides, they do not get as fair quality of honey as they would if they understood handling bees better. There have thirty-five per cent. of the bees in this locality died this winter; about half of the remainder are in a very weak condition on account of the poor honey flow last year. They were carrying in some pollen March 29th, the first for this year, and also some the first of this month, but today it is snowing and blowing, and if it continues cold for another two weeks there will be a great many colonies that will

not be worth much unless they are fed syrup.

Wishing you the greatest success, I remain, Yours truly,

JOHN H. KEMPER.

Southport, Ind., April 3, 1891.

CHAFF PACKING VS. AIR SPACE.

MR. EDITOR: There has been a great deal of comment on this question, and I think the reason is that it has never had a fair test. The proper way to test it is to take a cold winter, not such winters as we have had in the last three years, and take colonies of all sizes from weak to strong. Usually they take colonies so strong that they would winter in a paper box. My experience is, the warmer and dryer you can get your hives the better bees will winter, and it looks very reasonable that five or six inches of chaff, well packed, will keep out more cold than two $\frac{3}{4}$ boards, if not, why is a log house plastered and sided warmer than a frame house with the same thickness of wall? Let some of the dead air men take a hive and pack in on one side and they will find the first cold snap they have their bees will be clustered against the side packed. I winter in chaff hives, and left one good colony without a cushion on and examined it often and never found it clustered at top of frame, while the others would be clustered against the cloth at all times.

GEO. W. ABEL.

Kilgrove, O., April 13, 1891.

FRIEND ABEL: We agree with you that the warmer and dryer you keep a swarm during winter and spring, the safer you can keep them, but we believe it is not dry cold but dampness that is most fatal to the swarm, and for that

reason we believe a double walled hive without packing on sides is superior, for the moisture certainly passes off much more rapidly. Your example of a log and double walled house is good as an argument against cold, but not so when we consider moisture. A stone house everyone knows is very warm, but it is also very damp.—ED.

EDITOR AM. BEE-KEEPER, DEAR SIR: On page 53 of the April number is a communication from Mrs. Axtell on "ants." Let me say to the dear sister to get her a spring bottom oil can with a small discharge, fill it with kerosene and throw into each ant hole a small spray of this, and she will have the satisfaction of knowing, in a few days, that she has the better of the ants. I keep a filled oil can standing in the bee yard throughout the season, and it is a source of much pleasure to me that I can subdue the ant pest, having been badly afflicted with them years ago. I keep my ground clear of all weeds. Yours truly,

JAMES ANDREWS.

Pattens Mills, N. Y., April 4, 1891.

GENTLEMEN: I just unpacked my supplies received from you, and am more than pleased with the same. Your manner of packing is excellent. I never saw a finer lot of foundation. The freight on these goods was very low. As long as I receive goods like these you can reckon on me as a customer. Yours respectfully,

T. GARION FISHER.

Topton, Pa., April 15, 1891.

ED. BEE-KEEPER, DEAR SIR: I must say the shipment you sent me of hives, etc., was the best I have yet received in the supply line. Yours, &c.,
Muncy Station, Pa. R. I. CROMLEY.



The Automatic Swarm Hlver.

"A swarm of bees in May
Is worth a load of hay.
A swarm of bees in June
Is worth a silver spoon."

It is a well known fact that bees will construct queen cells and swarm from their hive with the desire to form another colony, when they become crowded for room. This condition of affairs comes on the latter part of June, generally during haying time, the busiest season of the year.

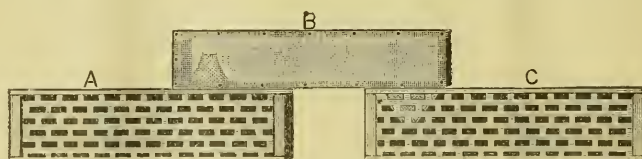
For years there has been no advancement over the old method of hiving a swarm of bees, although several attempts have been made to improve them.

When a swarm issues in the old way, it will cluster in one mass on the limb of some tree or bush near by and, unless given a hive soon, the bees will very likely go to the woods and be lost, or, as they often do, skip to parts unknown without even saying *bon soir*. Thus it is very important that we have an implement to insure the self-hiving of all our bees. The time and bees saved by using the self-hiver will doubly repay its cost the first season.

By referring to the cut, one will get a good idea of the self-hiving arrangement.

Box A and C are provided with metal, having perforations so small that a queen cannot get through them. The workers, being so much smaller than the queen, can pass in and out with no hindrance whatever.

Box B is covered with wire cloth and forms a passage-way from A to C through the cone-tube at D.



A swarm of bees will not leave the premises without their queen, and the queen being much larger than the worker bees, the inventor of the automatic swarmer has taken advantage of this provision in nature and devised a wonderful invention that will successfully hive all swarms that issue, without the assistance of any person. In fact the self-hiver is perfectly automatic and needs no attention during the entire swarming season, only so far as to see that it is perfectly adjusted to the hives.

The reader, of course, understands that box A is placed before the entrance of the hive from which a swarm is expected. Box C is placed before the entrance of the new hive, or the entrance of the hive the new swarm is to occupy. The two hives are then connected by placing box B upon boxes A and C as shown in the illustration so as to form a continuous passage-way between the two hives. All outlets to the hives except those thro' the metal must be closed to prevent the queen from taking wing and joining the bees.

When a swarm issues the queen is checked at the entrance of the hive by the excluding metal in box A. The worker bees have no difficulty in passing the perforations and going into the air pell mel as they usually do when a swarm issues, but the queen being much larger than the worker bees cannot pass the metal to take wing and join the swarm as they do when no self-hiver is used. When the bees find they have no queen with them they at once return. In the meantime a few young bees have found their queen in box C and all the bees of the returning swarm join her and enter the new hive, thus hiving themselves automatically.

If no more increase is desired, place box C onto box A so as to form a trap at the entrance of the old hive. Then if a swarm should come off it would hive itself back from whence it came. At the end of the thirteenth day from the time of the first swarm, the swarm-er should be removed from the entrance of the old hive so as to allow the young queen a wedding flight. The old queen always goes with the first swarm. Do not look for swarming after the last of July for there will be none.

Wendham, Mass.

H. ALLEY,

COMB FOUNDATION.

Just now there is a good deal being said about the use of comb foundation, and a good many prominent bee keepers argue that it does not pay to use it except in very narrow strips. Some of these same people save every particle of white comb, and some that is not so white, and fill the sections with it for bees to store the fine clover honey in for the market. Some have set up the

claim that such comb is worth from \$1 to \$5 per pound for this purpose. Others go to the trouble of getting comb built by colonies kept for the purpose in the body of the hive, and then cutting it up and fitting it into sections. That looks to me a good deal like puttering. If your hives and sections are properly arranged the bees will build the comb just as fast in the sections as anywhere else. When comb has been drawn out in the main hive, and perhaps half filled with honey, it is generally advised to extract the honey before putting it into the sections. Now that is just the kind of comb I don't want in the sections. It would certainly be better to leave the honey in the comb, but it is a daubing, disagreeable work, at best. Full sheets of very thin foundation are much better and are worth much more per pound for section honey. Of course for extracting, use full drawn comb, as the comb cuts no figure in the sale or keeping qualities of the honey. As to the use of full sheets of foundation in the brood chamber, bee keepers are not at all agreed. Many contend that it is both cheaper and better to use only half inch strips, and if full sheets must be used, to place them in the sections and use a queen excluder between. The queen excluder is all right, but narrow strips of foundation in the main hive is contrary to my experience. It is true that narrow strips are better than nothing, but I find that so much drone comb will be built to make it unprofitable to me, to say the least. Then, too, I find that swarms hived in that way are very apt to become dissatisfied and in a day abscond to the woods. So far I am decidedly a "foundationist," but I am open to conviction on this as well as all other subjects.—*C. H. Dibbern in Western Ploverman.*

The American Bee-Keeper,

PUBLISHED MONTHLY BY
THE W. T. FALCONER MANFG CO.

TERMS:

50 cents a year in advance; 2 copies, 85 cents; 3 copies, \$1.20; all to be sent to one postoffice.

Postage prepaid in the U.S. and Canada: 10 cents extra to all countries in the postal union and 20 cents extra to all other countries.

ADVERTISING RATES:

15 cents per line, 9 words: \$2.00 per inch, 5 per cent. discount for 2 insertions; 7 per cent. for 3 insertions; 10 per cent. for 6 insertions; 20 per cent. for 12 insertions.

Advertisements must be received on or before the 20th of each month to insure insertion in month following. Address,

THE AMERICAN BEE-KEEPER,
FALCONER, N. Y.

Ⓜ Subscribers finding this paragraph marked with a blue cross will know that their subscription expires with this number. We hope that you will not delay in sending a renewal.

Ⓜ A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

When the idea of publishing the AM. BEE-KEEPER first occurred to us we were utterly undecided as to our future policy, and as to what style of bee paper the majority of bee-keepers were most in need of. The problem has been gradually solving itself ever since, and we are now of the opinion that there is most needed a paper for the bee-keepers who have but little or no experience and who are in need of advice as to the least intricate methods of getting the best results from their labor. The *Review* is, strictly speaking, the scientific periodical of American bee culture. *Gleanings*, while covering the ground in all directions, not only in bee culture, but the garden, medicine and religion, has almost outgrown its usefulness to the novice. The *Am. Bee Journal* does not indulge quite so much in medicine and religion as *Gleanings*, but contains, as a rule, comparatively little of practical use to the beginner, although it is of undoubted interest to the advanced bee-keeper. The *Apiculturist* is—, well, it is good, but is a little too “high strung” for those who are not well up in bee lore, and is of more interest to the queen

breeder than to him who does not know a queen from a drone. So we shall hereafter endeavor to publish the BEE-KEEPER especially for the benefit of the beginners and the inexperienced, and while we will from time to time give our readers a taste of more advanced bee culture, as a rule theoretical articles will seldom appear. As this is primarily and solely a *bee* paper, we shall refrain from publishing anything not strictly pertaining to bee culture, and our readers can depend each month on receiving not less than 16 full pages of reading matter. All advertising will be restricted to the advertising pages. These pages are not numbered, so that in case any of our subscribers desire to have the BEE-KEEPER bound they can remove all advertising pages and have the pages of the bound volume numbered consecutively. This is a feature that no other journal has.

Having concluded to follow out the above policy, we request all our friends and contributors to send us only such articles as are of practical benefit to the general reader. We shall be pleased at all times to receive such articles, but we beg of you do not send us any scientific or theoretical articles, for if you do we shall have to decline to use them.

The volume of trade up to the 1st of April this year was considerably in excess of last season's, during the same time, but owing to the backward spring which we have had many bee-keepers have been reluctant in sending their orders during the past month. Trade is getting quite lively now, however, and we would advise everyone who may be in need of supplies to send in their order as early as possible, otherwise they may experience the same difficulty in procuring goods that existed last season, although we are in a far better position to make prompt shipment than we were a year ago.

Last month we concluded not to mail any more free sample copies this season, but as we have had numerous inquiries for description of our new Thin hive and Winter case, we have decided to send out several hundred sample copies again this month, so that our friends who are not subscribers may know what good things the new hive and case are. All who receive a sample copy are earnestly asked to send in their subscription.

We notice in several market reports from different cities that there is an increasing demand for dark or buck-wheat honey. If bee-keepers will endeavor to find a market for this grade we do not think they will have any trouble in doing so.

We have had several inquiries for the address of a good poultry paper. We consider *Farm and Poultry*, published in Boston, Mass., the best for the price—50c per year. We will send it with the *Bee-Keeper* one year for 90c., or *Farm and Poultry* one year and the *Bee-Keeper* the balance of '91 for 70 cents.

We have had many discouraging reports from many parts of New England. Owing to the small honey crop last season, many bees are starving. This is the state of affairs in Old England, also.

Owing to the scarcity of beeswax, as well as the recent advance in price, we are compelled to advance the price of foundation 3c per lb. A similar increase of price has been made by Dadant & Son, T. G. Newman, A. I. Root and other principal manufacturers.

We acknowledge with thanks the receipt from our friend Dr. C. C. Miller, a copy of "A Year Among Bees." It is a valuable book for all interested in bee culture, and is written by one who knows of what he writes, from many years' experience. Price in cloth 50 cents.

The *May Flower*, a sixteen page illustrated monthly, 50c a year, published at Floral Park, N. Y., recently called for a vote from its readers on a choice for the National flower, which resulted as follows: Lilly, 16,421; Red Clover, 8,813; Violet, 6,583; Water Lily, 3,845; Trailing Arbutus, 2,278; Columbine, 2,015.

We will send the American Bee-Keeper from now until Jan. 1st, 1892, for 25 cents.

In our haste to get out our '91 catalogue, several errors and omissions were made, which have caused us considerable trouble. We have given on the supplement to this number of the *Bee-Keeper* a complete list of corrections so far as we have discovered them up to the present time.

THE W. T. FALCONER MAN'F'G CO.,
DEAR SIR: Goods received today. It is useless for me to say to you that I am pleased with them. If your goods do not please it is because the customer does not know what he wants.

Yours truly, J. FRANK DENNEY.
Leipsic, Del., April 16, 1891.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—		PUB. PRICE.	BOTH.
American Bee Journal,	(\$1 00)	\$1 35	
American Apiculturist,	(75)	1 15	
Bee-Keeper's Review,	(1 00)	1 35	
Bee-Keeper's Advance and Poul-			
tryman's Journal,	(50)	90	
Canadian Bee Journal,	(75)	1 15	
Gleanings in Bee Culture,	(1 00)	1 35	

Seasonable Sayings.

When two or more prime swarms come out and cluster together, and are allowed to hang awhile, the queens will usually all be balled and drop to the ground with their balls of bees, when the queens can be secured and returned to their hives by caging, or without if you can tell where each one comes from.

If you would like to know where a swarm comes from, take away the queen and sprinkle the bees with flour, then smoke them off, and you can soon see where to return your queen.

If you wish to avoid the openings between the sections made by the T tins, holding the sections apart, turn your tins over, put a saw cut through the rest made for the tin to lie on, then with a follower and wedge you can press your sections up tight, saving much time for the bees, (as to fill these cracks between the sections will be their first work on them), and save you much time scraping sections.

Patten's Mills, N. Y. JOHN ANDREWS.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

NEW YORK, April 20.—The demand for honey of all kinds is very quiet. There is no comb but a sufficient supply of extracted on the market. Prices of extracted honey: California 7@7½c. Florida, 7½@8½c. Cuban, 90c per gal. Beeswax is in fair demand but a very small supply. Prices are firm at 28@31c per pound.

F. G. STROHMEYER & CO

NEW YORK, April 19.—There is a good demand for honey with a limited supply. No comb on the market. Price of extracted California 7@7½c. Very good demand for beeswax with short supply. Prices 28@30c, as to color and quality.

HILDRETH BR. S. & SEGELKEN.

ALBANY, N. Y., April 21.—The demand for both comb and extracted honey is very good, while the supply is small. Prices of comb 12@15c; extracted 7@9c. Beeswax is in good demand with a small supply, and prices are 28 to 30c. There is more demand for buckwheat in pound and 1½ lb. than any other grade at present.

CHAS. W. MCCULLOUGH & CO.

ALBANY, N. Y., April 20.—Comb and extracted honey in good demand with no stock. Price of comb 13 and 15c. Beeswax in good demand at 28 and 30c. There will be no comb honey carried over this season. H. R. WRIGHT.

CHICAGO, ILL., April 18.—Demand for both comb and extracted honey increasing and stock light. Can use shipments to advantage. Prices of 1 lb. sections 16@18c, 2 lbs 14@15c. Extracted 7@8c. Beeswax in good demand at 30c.

S. T. FISH & CO., 189 S. Water St.

CHICAGO, Ill., April 19.—The demand for honey is light and only for best quality with small supply. Price of comb 17@18c. Extracted 7@8c. A very good demand for beeswax at 27c, with fair supply. The season for sale of crop of '90 is at a close, and is quite satisfactory, as all of it will be sold before new crop comes in.

161 South Water St.

R. A. BURNETT.

BOSTON, Mass., April 21.—Honey is in good demand and small supply. Price of comb 18@20c. Extracted 7½@9c. Beeswax in good demand with no supply. BLAKE & RIPLEY, 57 Chatham St.

KANSAS CITY, April 18.—The demand for honey is fair for comb and light for extracted. There is a large supply of the latter with but a small stock of the former. Price of comb 16@18c; extracted 6@7c. There is no beeswax in the market but a good demand. Prices range from 22 to 25c. One pound comb will be cleaned up before the new crop comes in.

CLEMONS, MASON & CO.,

ST. LOUIS, April 17.—There is a fair demand only for comb honey. Prices 13@15c for choice white clover; 10@12c for dark. Choice white clover extracted in cans 7@7½c; in barrels 6½@7c. Inquiries are numerous for strained and extracted in barrels. Beeswax prime, 27½c.

D. G. TUTT GRO. CO.

CINCINNATI, O., April 20.—The demand for honey is good with a fair supply. Price of comb 14@17c; extracted 6@8c. Beeswax in good demand with scanty supply. Prices 25@30c for good to choice yellow.

CHAS. F. MUTH & SON.

KANSAS CITY, Mo., April 18.—There is a fair demand for honey and a good supply. Price of one pound combs 14@15c; two pound 13c; extracted 6@7c. The demand for beeswax is good with a light supply. The price is 2-c. Prices of honey are lower in order to close out before new crop comes in. Prospects for new crop are good. Very few losses of bees in this section the past winter.

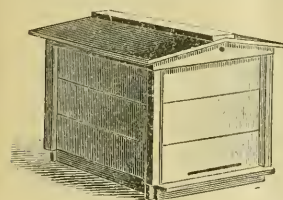
HAMBLEN & BEARSS, 514 Walnut St.

Our New Outside Winter Case and Thin Hive.

For some time past there has been considerable discussion concerning the advantages of using an outside case that could be set over an ordinary summer hive to protect it during the winter and early spring. Theories were advanced and as rapidly exploded, yet no one really knew until very recently how much merit the outside case or shell idea had. During the past winter a large number of experiments have been made both in this country and in England with such a case, and as far as we can learn the results have been very favorable. Mr. A. I. Root is one of the many who has been testing it along with chaff

hives, and his last report showed that the bees were doing better in it than in the latter kind of hive. Mr. W. B. Carr, publisher of the *British Bee Journal*, reports that he wintered all his bees in hives with outside case protection, and only one swarm died, and this single instance was on account of the outside case not being properly adjusted.

For a number of years we have made the Chautauqua hive, which has a permanent outside case with dead air space, and all reports concerning it have been most flattering. There are thousands of bee-keepers who are using the dovetailed or a similar single walled hive, and such hives certainly need protection in cold weather, as comparatively few have spare room in their cellars in which to keep them during the winter, nor do they wish to take the necessary trouble to place them there. Consequently we have constructed a thin outside winter case with gable cover and bottom for using with such hives. We have also made a thin hive to use with it if desired.



half high, but if a two story dovetailed hive is to be used a half story case can be added.

The shell is made of $\frac{3}{8}$ inch material, three pieces in height; the upper and lower edges of the shell are square, and where the pieces are joined together the edges are beveled so as to shed water. The corners are solid, same as a chaff hive. If desired, however, they can be made with corners that can be screwed together, so that when the cases are stored away they can be taken apart and so occupy but little room. Quinby hive clasps can also be used on the corners. These clasps will facilitate

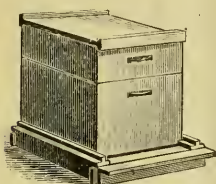
The illustration shows the winter case complete with bottom and cover. It is a story and a



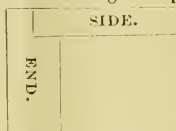
taking the shells apart, as it will require only a moment to remove them. A gable cover is used having a rim of $\frac{7}{8}$ material with roof boards $\frac{3}{8}$ in. thick and ridge board $\frac{7}{8}$ thick. There is a one inch ventilating hole in each end. The bottom board is adjustable. The hive rests on strips $\frac{7}{8}$ in. wide and $\frac{5}{8}$ in. thick, rabbeted out $\frac{3}{8}$ in. wide by $\frac{1}{4}$ in. deep. As these strips are the entire length of the bottom board the hive can be pushed forward or back as desired, the bottom board being 23 in. long. A strip $\frac{3}{8} \times \frac{7}{8}$ in. slips in between the side strips of bottom board, and is to be kept under the back end of the hive as it is moved forward or back. A strip $\frac{3}{8} \times 1\frac{1}{2}$ in. is used in front of the hive to form an entrance when the case is adjusted for winter, and an alighting board is attached to the front edge of the bottom board.

The bottom is composed of two pieces $\frac{3}{8}$ in. thick and $8\frac{1}{4}$ in. wide and sets on a rim 2 in. high of $\frac{7}{8}$ in. stuff. The end pieces of the rim project beyond the side pieces $\frac{3}{8}$ in., so that the shell sets down over the edge of the bottom board and rests on the end pieces. This prevents any cold from entering at the bottom. By simply tacking some boards on under side of rim to bottom board it can be filled with chaff so that the hive will have two ins. of packing at the bottom, or it can be left empty, making a dead air space. We advise the use of this bottom board for both summer and winter. While it is somewhat longer and wider than the hive, it is made so that there is no chance of water getting into the hive. In summer when the winter case is not used the hive should be shoved to the back end of the bottom board, leaving a wide alighting board in front. For winter management the hive should be placed in the centre of the bottom boards so that there will be just $1\frac{1}{2}$ in. between ends of hive and shell. The $\frac{3}{8} \times 1\frac{1}{2}$ in. strip is placed between the hive and outside case covering the entrance. This outside case is so constructed that there is not a nail exposed to the weather, which is a matter of much importance, as where a nail

is driven through from the outside the frost follows it and accumulates on inside, which melts off during warm days, and thus causes a great amount of moisture on the inside of the hive.



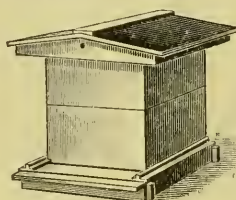
As there has been considerable demand for a thin walled hive, we have constructed one, an illustration of which is here shown, which has the same inside dimensions as the dovetailed hive, and whose inside material is interchangeable with it. It is somewhat cheaper than the regular dovetailed hive, having sides of $\frac{3}{8}$ in. material and ends of $\frac{7}{8}$ in. thick material. The latter are rabbeted out $\frac{3}{8}$ in. square, so that the side pieces slip into the rabbet something like the following:



It is really a dovetailed hive in everything except the name. We call it our Thin walled hive. The cover is made of $\frac{3}{8}$ in. material with end cleats $\frac{7}{8}$ in. thick; in every way just the same as the cover of the dovetailed hive. When used with an outside winter case we believe it to be the most complete, and at the same time the cheapest winter hive in use.

There is a $1\frac{1}{2}$ in. space between the hive proper and winter case, both on sides and ends, and whether packed with chaff or used with a dead air space, our experience with hives leads us to believe that it will make in every way as perfect a wintering hive as has ever been invented. Where it is desired to pack the hive with chaff for winter the half story and cover of hive is removed and the brood frames covered with burlap or cloth. Then pack the sides with any suitable material and place above the frames whatever thickness may be considered the best for climate in which the hive is used, or the empty case can be left on top of the hive and

the same filled with a cushion, allowing the packing on the sides of the hive to come up to the top of the case; this will leave the brood chamber in better shape to get at for examination or for the purpose of feeding. When used without packing we are of the opinion that it is better to leave the winter case on during the summer. It is so constructed that it will not be in the way at all, and will be a protection to the hive during extremely hot weather. As some may think that the case will be in the way, however, when handling bees, the sides of the case may be removed and the cover placed directly on top of the flat cover of hive, as shown in illustration. This will form a



very good shade for the bees and doubtless this arrangement will be preferred by many. By using building paper to line the winter case it may be made very warm.

By simply removing the $\frac{3}{8} \times \frac{7}{8}$ in. piece at the back of the hive an entrance can be made at the back end giving a double entrance to the hive, and should it be desired to use the hive for nucleus hive, for two small swarms, queen rearing or any similar purpose, a division board can be placed in the middle of brood chamber and an entrance made at diagonally opposite ends of the hive. To do this will require no cutting of the hive or anything more than slipping under each end a small piece of wood cut the proper length.

We believe this hive and winter case to be the cheapest and most efficient, for the several purposes, that has yet been offered, and we anticipate a large sale on them. Bee-keepers having the regular dovetailed hive will, with this winter case, have the cheapest, most convenient and safest winter hive that can be obtained. We have put the prices very low. They will be found elsewhere in this issue.



PUBLISHED MONTHLY BY THE W T FALCONER MANFG CO

VOL. I.

JUNE, 1891.

NO. 6.

Drone Comb.

BY G. M. DOOLITTLE.

A correspondent writes thus: "I have many frames of comb in which I find both drone and worker comb. How shall I proceed to get rid of the drone comb and not have the bees build the same kind in again?" As this is a question of interest to all bee-keeper, and as many of those who take the Bee-Keeper may have the same trouble as does our correspondent, I will, Mr. Editor, with your permission, say a few words on this subject for the benefit of your readers. Too much drone comb in the brood-chamber is quite a serious damage to the honey crop, as drones are only useless consumers, being of no value except to fertilize the queens; and in these days of progression no person can afford to allow a promiscuous production of drones. One or two square inches of drone comb is all that should be allowed in any hive except in one or two containing the choicest colonies, which should have enough drone comb to rear all the drones needed in the apiary. As all colonies will have a little drone brood any way, even if they have to cut down worker comb to secure a place

to build comb for this brood, it is well to let each colony have about two square inches of drone comb, which should all be in one frame. This frame should be marked, so that where the production of all kinds of drones is not wished, it can be lifted out of the hive every twenty days and the heads of the drones shaved off, thus enabling us to have our queens mated to the kind of drones we are raising for them. I place this frame having drone comb in it near one side of the hive, and by doing so the queen does not deposit eggs in the drone cells as early in the season, nor as late in the fall as she would do if it were in the center of the hive; thus saving a little labor in shaving off the heads of the drones and the honey which would be consumed in raising them. From the above it will be seen that the correspondent has asked a very pertinent question, as the bees will nearly always fill the place where drone comb has been cut out with comb of the same sort. The only way I know of to stop their doing this is either to give the combs having the drone comb removed from them to nuclei or weak colonies having young queens or after having cut out the drone comb fit

worker comb in its place. While the latter does not give as perfect combs as the former, (for which reason I always use the former whenever consistent,) yet the latter has in its favor the immediate use of the combs in full colonies, for it is often mid-summer before many nuclei are strong enough to build comb at the bottom of the frames, where the most of the drone comb is usually built. Where the combs are needed for immediate use, and there is a large patch of drone comb in a frame, I cut it out with a narrow bladed, sharp knife, after which the frame is laid over another frame of oomb which has some drone comb in it also, so as not to spoil a good comb. I lay it so the empty space comes over the worker comb, when the lower comb is marked a trifle larger than the space to be filled, after which the marked piece is cut out and pressed into the place where the drone comb came from. If the piece should happen to be a little too small, a few drops of melted beeswax will hold it in place till the bees fasten it. For small patches, from an inch to four inches in diameter, I use punches of the proper size, made of old fruit cans. These can be found about hotels, if canned fruit is not used in your own family, and need not cost you anything. When you have collected your different sizes, place the ends on a hot stove when the solder will melt, thus letting the top and bottom off, as you place either end on the stove. After the tops and bottoms are off, make the whole circumference of one end sharp with a file, sharpening wholly from the outside. Now lay the comb flat down on a smooth board and with the right sized punch cut out the patch

of drone-comb by twirling the punch around as you press down upon it. Now push out this drone-comb and with the same punch and in the same way, cut out from some discarded frame a piece of worker-comb, which will, of course, exactly fit the place you took the drone comb from. In this way it is no great task to rid all the frames of drone-comb. If any have honey in them so you cannot tell where the different kind of comb commences or leaves off, you will have to wait until the honey is taken out by the bees, when these can be fixed also. In this way I go over all my combs every other spring, just after pollen becomes plenty, taking out the drone comb. "But," says one, "your plan cannot be effectual, or you would not need to go over your combs every little while. I see that it is claimed that when the frames are filled with comb foundation that there is no need of having any drone comb in the hive." Well, I do not know what the experience of others is, but with me combs are very different from a piece of iron which will stay for years as first made, for the mice will sometimes get into a hive in winter, in spite of all the precautions I may take, and gnaw holes in the combs, which (holes) the bees will fill with drone comb unless I get the start of them and fill with worker comb as described. Then, again, the moth-larva will get in while extra combs are stored away, or they will make holes in the combs in removing mouldy bee-bread, a bunch of dead bees or anything of the kind, and so by numerous ways drone comb will get in after the combs are comparatively perfect; hence it requires vigilance in this as well as other things,

if we would reap a reward. I have given this in time so all can profit by it the present spring, except it be those in the extreme south, where drone brood is already in abundance, if not drones already hatched and flying.

Borodino, N. Y.

Instructions to the Beginner.

BY M. H. DEWITT

ARTIFICIAL INCREASE, OR DIVIDING

Artificial increase should not be undertaken to any great extent by the beginner, as it takes much experience to make it a success. The beginner can try it on a small scale if he wishes, and go slow until he gets sufficient practical knowledge to make it a success. Nucleus colonies can be started by taking two, three or more frames of hatching brood with adhering bees, being sure not to take the old queen, and by providing queens or queen cells we can soon have several colonies started; but if these colonies are not built up to good colonies by the time the honey season closes we must build them up by liberal feeding. Now I think the beginner will succeed better to depend on swarming or natural means of increase, besides there is much expense in building up weak colonies to good strong ones, and it takes much time and attention.

HOW TO BUILD UP A NUCLEUS OR ARTIFICIAL COLONY.

I will now give the reader directions for building up an artificial colony, and if you can successfully build up one you can of course try as many more as you choose. We will suppose you have a colony of this kind you want to build up to a good strong one, and the honey harvest is over, which

in most localities, or in our latitude, ends about the middle of July, and sometimes sooner. You should not wait longer than the first of August, for bear in mind that when the honey flow ceases the bees often stop breeding, or at last to a great extent, and if a colony of bees does not go into winter quarters with plenty of bees they will be likely to dwindle out when spring comes, if they do not die before. Well, to get this colony to go into winter quarters with plenty of bees, we must go through a long process of daily feeding. We will need a good bee feeder. I would use the simplicity. Place it over the brood nest on top of the brood frames, for it will not do to undertake to feed outside the hive, as it is almost sure to start robbing, and it makes the bees cross. Neither would I feed during day time, even inside the hive, as it will excite the bees and make them more or less cross, as well as danger of starting robbing. The plan is to feed the bees after night, or rather, just before dark give them their food and they will, long before morning, have the feed all taken down, and all danger of robbing is averted. We will now suppose it is the first of August. I would begin to feed this colony just enough to keep up brood-rearing. Feed one feeder full every evening, all through the month of August. Feed regularly if you expect to keep the queen laying. The syrup need not be very thick for this stimulative feeding—say to one-half gallon of sugar add water enough to make one gallon of syrup. If the bees have many new combs to build they will likely have consumed all you have fed up to this time, and they will now

have to be fed for winter, which should be commenced not later than September 10th. Now you should examine and see if they have any stores for winter. They should have at least twenty-five pounds for winter stores, and what they lack should be fed to them during the next ten days or two weeks. A good rule to make syrup is to have as much syrup, by measure, as you had dry sugar; that is, if you have one gallon of sugar put in water enough so you will have one gallon of syrup. As to the kind of sugar to feed I would not recommend anything except granulated sugar, especially for winter feed.

Sunny Side, Garrett Co., Md.

Bee-Keeping for Women.

BY MRS. S. E. SHERMAN.

It is thought by some that bee-keeping cannot be successfully carried on by women. This is a great mistake. There are few vocations that I know of that offer greater inducements to those of our sex (both for health and profit) who are the bread winners of the family, now that everything can be had right from the factory that is needed in the construction of hives and frames, etc., so perfectly made that any one with a sample to go by can soon learn to make their own hives, and with a little practice they can also soon learn to paint them. Why should it be thought out of place for a woman to drive a nail or paint a hive? I contend that it is not at all out of place, but that she should rather be commended for her industry and independence. The work is not unpleasant nor degrading to a true woman. She will not be thought any less of for engaging in it. It will

necessitate her being out door where she will breathe the pure fresh air and be in the warm genial sunshine; two of the most health giving elements in the great laboratory of nature, for the want of which thousands of women are now slowly dying.

That it is a healthful vocation I have proven to my full satisfaction, having been for a number of years a great sufferer from that dread disease, dyspepsia, prior to having engaged in bee culture. Now I am decidedly the most portly and robust woman in our town. Dyspepsia is all gone, with good, rich blood coursing through my veins. The change is all owing to active, out-door exercise and the almost constant use of honey. Now, haven't I a right to plead with other sickly women to come outside and help work with the bees and win for themselves good health together with what is too often considered a luxury, pure honey, and at the same time replenish their shrunken purses? For your little ones there can be no healthier sweet. If you have an abundance of honey there is little other sweet needed, for it can be used in making cakes, jelly, jam, preserves, etc.

Do not begin on too large a scale. Get one or two colonies, a few empty hives, the same pattern if you can as those which your bees are in, so that the frames will all be interchangeable, a veil, smoker, and one of Alley's queen traps for each hive. A text book on bee culture, of which there are quite a number to select from, and at least one good bee journal. Read and study your book and journal closely, and put all the good, practical suggestions into active operation at

your earliest convenience. Make a note of your successes and failures so that you may profit by the former and avoid the latter on future occasions. Put your bees in front of that portion of the house in which the most of your work keeps you, so that you can have an eye on them occasionally and still attend to your duties.

Do not neglect your bees and then expect them to yield honey as though they had first class attention, for if you do you will surely be disappointed. Attend to their every want and they will repay you handsomely for the care and attention thus bestowed.

I purchased one colony of black bees in the winter of '79, in a common box hive; knew nothing about them except that they gathered honey and could sting. I had never seen or heard of such a thing as a smoker or book or anything of the kind. I, however, had a friend in a distant county that knew something of bee culture and had his bees in movable hives. He sent me an old copy of *The Bee-Keeper's Magazine*. From this I read the first thing I had ever seen in print upon the subject of bee culture. I sent for the directions how to make an American hive, got a carpenter to make two hives for me according to the directions, and when my bees swarmed I sent out and got some of my neighbors to come and help me hive them, and such a time as we had can better be imagined than described, suffice it to say that several of us were terribly stung. I had no starters even, for I had never heard of such a thing as comb foundation, so my bees in one of the hives built their combs diagonally across the hives instead of following the frames as they should have

done. This, of course, caused considerable trouble and waste of comb. After I learned better how to handle and manage them I had to cut this out and transfer them into other frames so as to get them straight. I had such a dread of being stung that I would put off robbing them from day to day thinking that perhaps some one would come that would help me or that knew more about it than I did. Thus I worried along for several years without realizing anything like I should from my bees. In the meantime I subscribed for a magazine and got a bee-keeper's text book which I read and studied very closely. I had sent to New York and got one-half dozen ready-made hives and decided if I ever was to make a success of it I must not so much dread a few stings and go at my work with a will and determination to succeed at all hazards. I got a smoker, veil and pair of long rubber gloves, the last of which I soon threw aside, finding them a great nuisance. I have since added a number of bee books and journals until I now have quite a nice library upon the subject of bees.

I have raised 6000 lbs. of honey in one season and ordered one hundred hives at a time. I get them all in the flat now and nail and paint them myself or have it done here at home.

Now, don't you think I have a right to say that a woman can make a success in bee culture? Any woman with good common sense, combined with industry and a determination to succeed, can do as well and perhaps better than I have done. I have sixty colonies of Italians and Hybrids, all in apparent good condition at this writing.

Salado, Texas.

Carniolan Bees.

BY C. J. ROBINSON.

Many pages of bee periodicals have been devoted to recording the merits and demerits of Carniolan bees and discussion over their true markings and color. The reason for the discrepancy in describing the bees of Carniola or the parts adjacent to Italy and Switzerland is the circumstance of the yellow bees passing from Italy into territory where the Carniolan race had first been kept. Of course the native bees crossed with the native Krainer bees and became more or less mixed, as shown by the markings on some of the bees bred in that territory.

The keeping of bees in Carniola has been by peasants almost exclusively. No well-informed or scientific person engaged in the business, so no progress was made during ages. Some 30 years ago it was learned that the bees in the Alpine region of Krain showed peculiarities that attracted attention and colonies were shipped thence to other countries. Some 10 years ago bees were introduced into this country from Carniola. Mr. Ambrozic, a peasant of Lengfeld, Krain, Austria, was the first to engage in exporting the so-called Carniolan bees. Mr. Frank Benton learned of the Carniolan bees and took up his abode within the province of Carniola and found that the bees there were radically superior to the yellow bees wherever found. In 1883 he commenced mailing Carniolan queens to this country. He could not, however, learn anything of the history of the bees found in the parts where he located, as the people were incompetent to give information, so he could only learn what came under his observation concerning the type of bees

which we found. Therefore, Mr. Benton is not authority on the question of the identity of the typical bee of Carniola, but he is the most competent authority on the question of merits, because he has had extensive experience with all of the different types of bees that are known as hive bees. Mr. Benton's description of the bees he found in Carniola shows that they are not uniform in color and markings, and we may reasonably infer that some of the bees there are mongrels or cross-bred. Ever since 1881 I have been seeking information concerning the history and facts pertaining to the true type of the original native bees of Carniola. I corresponded with Mr. Ambrozic and with Benton, both of whom informed me that some of the bees there showed yellow while others did not. This did not satisfy my curiosity. At length I learned of a party who has been a resident of Carniola for many years and competent to give the history of bee matters throughout the whole country. The following is a portion of a letter written by the party alluded to—Mr. Max Pauly. The original letter is in German, but I give a true translation of it:

"The pure Krain bees are more gray, long, heavy, rather thick body, and have positively no yellow on them. As Krain is especially a mountainous country the climate is consequently rough and changable, therefore the original native race of bees have become acclimated and hardened. These bees, on account of their docile dispositions, are of the first rank and are demanded from all nations of the globe. Krain is the Eldorado of bee culture. Everybody raises bees here and many have hundreds of hives.

The main subsistence for bees here is *Harmon* and buckwheat. The former

grows wild and spreads all over the country. Buckwheat is cultivated extensively.

The Krainer bees are not black as you suppose. The fore part of the body and belly show gray, and only the hinder parts show brown-black. Such is the type of bees that have existed here ever since there has been a Krain, so history informs us.

Bee culture in Krain has ever been a great financial source for the inhabitants. The trade in bees (exporting) commenced about 30 years ago and continues to the present. There has never been a bee paper published here."

From Mr. Pauly's letter it is seen that the original native Carniolan bees are a type that are radically different from bees having yellow marks on any part of them. Not five per cent of the queens imported from Carniola have come from the Alpine regions where the original native bees are isolated from mongrels. I wish that our bee-keepers might see bees from Carniola where no yellow specimens exist. Mr. Pauly will send to me from his apiary, more I expect than I care for, and although I have obtained hundreds of queens I never have sold one. Should I get a surplus of Carniolan queens I will accommodate others to the extent of my supply.

Richford, N. Y.

Prof. A. J. Cook's new edition of "The Manual of the Apiary" is now out and is without question the best work on bee culture for the money that has yet appeared. It contains 460 pages, is beautifully printed and illustrated, and has a fine cloth binding. The price has been reduced to \$1.00 each. Every bee-keeper should have a copy.

Best Size of Hive for Extracted Honey.

BY DR. G. L. TINKER.

In answer to an inquiry for an article on the above subject I will say that the storifying Langstroth hive having a capacity for only 830 square inches of comb in the brood chamber to carry a brood frame about 7x17 in. in size, is the best for bee-keepers in most localities. It is practical, as I found upon trial, to use eight stories of such a hive for extracting where a continuous passage way queen excluder is used.

In contracting the brood chamber according to the state of the honey flow and in limiting the queen against non-producing workers hatching out at the close of the harvest, the queen may be finally limited to the lower story, leaving seven stories to be sealed for the extractor. The seven stories will contain from 250 to 300 pounds of honey.

Mr. J. F. McIntyre, one of the best authorities on the production of extracted honey on the Pacific slope, states that he prefers a brood frame for extracting of large size, 11x17 in., 10 to the hive, and it is possible that in such localities as his, where the honey flow is apt to be abundant and long continued, a large frame for extracting may be used, on account of there being a less number of frames to handle to obtain the same amount of honey, but it is certain that no larger yields can be obtained on frames 11x17 than on frames about 7x17 in size.

New Philadelphia, O.

Cook's "Bee-Keeper's Guide," 460 pages (revised,) reduced to \$1.00.



ED. AM. BEE-KEEPER: With your permission I will give your readers a few conclusions which I have arrived at concerning Carniolan bees after thoroughly testing them for several successive seasons.

I have concluded that they are a very much abused race, as I am scarcely able to pick up a bee paper or agricultural journal whose columns do not contain an article condemning them. They are said to be cross, poor honey gatherers, excessive swarmers and to have many other bad qualities which it is not necessary to enumerate here. As a reason for the various objections I think in some cases perhaps prejudice may have something to do in the matter, but as the principal reason I think I am safe in saying that many who are not satisfied with these bees have not had *pure Carniolans*. Indeed, I find that the number of untested queens sent out that produce *pure* bees is very small. Last season I purchased some eight or ten untested queens, (of prominent breeders), and not one out of the number produced *pure workers*. I merely state this to show my experience which has been about on this line since I have kept this race of bees. In regard to the various crosses of this race I find that they vary in many respects from those that are pure, some comparing favorably and others not, which is the case with all bees which I have ever tried. With the *pure Carniolans* I deem it only fair to

say that they are at all times as peaceable and well behaved and as good honey gatherers as any Italians I ever had (and I have handled hundreds of colonies of them). They cap their comb honey much whiter than the Italians do, and are very hardy to winter, usually coming through as strong in numbers as they were in the fall, which I attribute to the way they have of keeping quiet when there is nothing for them to do in the fields, but when the busy season arrives they just "get there" every time.

In concluding these remarks permit me to say that I am in favor of Carniolan bees, but have nothing in the line for sale, as I keep bees for experiment and honey only. Yours truly,

T. L. DUGDALE.

West Galway, N. Y., April 7, 1891.

ED. AM. BEE KEEPER, DEAR SIR: I find on page 73 of the BEE-KEEPER the name of James Andrews signed to the reply to Mrs. Axtell in regard to "Ants in the Apiary." This is an error. It should be signed *John Andrews*. I therefore wish you to mention the mistake as there is a James Andrews living here and he may be annoyed with letters.

In addition to what I said on page 73 I wish to say that I have found the white or refined oil to be more effective than the un-refined, and if thrown into an ant hole no ants will come out or go into that hole, but as ants come to the bee yard to feed on dead bees it takes some patience to keep them down. Yours respectfully,

JOHN ANDREWS.

Pattens Mills, N. Y., May 13, 1891.

ED. AM. BEE-KEEPER, DEAR SIR: About five or six years ago I purchased my first tested queen and paid a good price for her. To make sure and not loose her I put her in with four or five frames of hatching brood. Now, in some way her majesty got daubed, and upon opening the hive I found her stiff and dead. I decided (as she was really a beautiful bug,) to put her with my collection of insects, but first I must wash the honey off, so I put her in a small glass vial and washed her by shaking. I left her on a piece of blotting paper and went to bed. In the morning I went with a pin to pin her with my collection, and lo and behold the queen was gone and I found her at the window as lively as ever, and by introducing her by the Peet method she proved a treasure indeed. Have since experimented a little and find that a bee can be apparently dead for several hours and if thoroughly washed will revive.

I discovered this by chance, and as it may prove useful to some of your readers who might save a valuable queen I send it to you.

Yours respectfully,

HARRY L DWIGHT.

Friendship, N. Y., April 22, 1891.

ED. AM. BEE-KEEPER, DEAR SIR: As I noticed a blue cross on my last paper I enclose subscription for its continuation. I think it is excellent, and consider it far superior to the *Advance*.

We have had very poor seasons for bees of late here. There was scarcely any surplus honey or increase last year, hence there has been a great

many colonies lost the past winter, but this Spring opens up very favorably and bees are doing well so far, and we hope for better times.

ALB. R. HEAD, P. M.

Joy, Ala., May 11, 1891.

ED. AM. BEE-KEEPER, DEAR SIR: I have just received the May number of the Bee-Keeper as a sample copy, and I must say it is just what I want and I must have it if it is to be a paper for beginners. I fully appreciate your remarks concerning other bee papers, which I have found by experience away up too high and scientific for one like myself who is only in the A. B. C. of the business, but however I shall continue to read as many of the other papers as I can get so as to get up in the advanced class as soon as possible, but as long as I am in the A. B. C. I must have the BEE-KEEPER, so you will find enclosed stamps to pay my subscription.

Yours truly,

MRS. A. L. HALLENBECK.

Millard, Neb., May 11, 1891.

ED. AM. BEE-KEEPER, DEAR SIR: I have thirty colonies of bees in Simplicity hives. I wintered four in the cellar and the balance on the summer stand with outside frames removed and division boards inserted, with chaff between the boards and outside; also over frames. All came through in fair shape. The winter was very mild, the thermometer only reaching eight degrees above zero. The bees were rearing some brood in February, but a cold spell last of Feb. and first of March stopped brood rearing and also destroyed most of the Maple and Elm bloom. Last week

was uncommonly warm for this time of the year; 83 degrees in the shade. Peach trees furnished the most bloom I ever saw, which was followed closely by the wild cherries and pears. Now the apple trees and late cherries are in full bloom, and the weather has changed to-day and is cloudy with a cold wind from the north. In the forest the sugar tree, beech and judas trees are in bloom. The bees worked on the sugar tree as eagerly as they do on the basswood in July. Some of my hives are full of bees and brood. I found queen cells ready to receive the egg. Unless it turns colder early swarming is assured. I put on some supers last week and the bees built some very pretty comb in some of them and stored a little honey. I have practiced Doolittle's plan of changing brood frames, as described in the March number of the Bee-Keeper. The season bids fair to be a very prosperous one for bee-keepers in this section. Yours, &c.,

D. B. STORY.

Kingsbury, O., May, 1891.

THE W. T. FALCONER MAN'F'G CO.,
GENTLEMEN: A sample copy of the Am. Bee-Keeper fell into my hands yesterday and I looked it over and like its style. I have concluded to subscribe. I was in the bee business some thirteen years ago; had some success and some failures, but I sold out and have never been as well satisfied or enjoyed as good health since. If I can again acquire sufficient health to permit me to do so I think I will try it again. I have kept a few bees ever since, but have not given them the attention they needed. I see several things in your paper that

suits my experience so well that I cannot refrain from speaking of them.

In the year 1869, when I had been in the business about four years, I begun in the spring with 19 good strong stocks, about four of them Italian and all in American Hives. That was a good season in this part of the country and I increased them to 60 good strong hives in the next spring, and I sold 3700 lbs. of nice comb honey, which averaged me 28c a pound, bringing me \$1036.00, and of course I had done other work and all the work of the apiary, making it the most prosperous year of my life, but that was the cause of the breaking up of three other men in the neighborhood though many went into the business largely. One of them after asking my advice and getting it thought I wanted to monopolize the business when I advised him not to buy to exceed four swarms. He bought 55 in common box hives and then hired a man to manage them and bought a patent right for the state for a hive and sent to Chicago and had manufactured 500 hives. He had those bees in the box hives transferred into new hives and did the transferring in a time of the worst drouth of honey I have ever seen. He was living less than $\frac{1}{4}$ of a mile from my Apiary and I went up there while they were at it and begged him to stop, assuring him that he was spoiling my bees, for as soon as they would complete a hive he would set it out and my bees would rob them of every drop of honey they had and consequently he lost about all his bees. He had a few stands that he protected and he run the business five years and then sold out all the bees and empty hives he had and realized I think \$30,

and was out of pocket probably as much as \$2,500.00. My bees learned to steal and never did very well afterwards, which was one reason that I sold out.

Now, that is the style of us western men. We think we are as competent to keep bees as our neighbor and when our neighbor makes some money of course we can. While I talked to my neighbors and advised them to begin with a few hives, and get some standard works, and also to take one or more bee journals, they misunderstood me and concluded that I wanted to monopolize the bee business in our part of the country, but they found out their mistake when too late.

Yours truly,

MILES H. WILMONT.

Mechanicsburgh, Ill., May 13, 1891.

ED. AM. BEE-KEEPER, DEAR SIR: Some one has advertised that the Golden Carniolan bees are a humbug, and has also stated that there are no such bees. The same party also states the color of Carniolan bees is always gray and that they have no yellow bands. It so happens that the undersigned has had no less than three imported Carniolan queens from this party and the worker progeny of all the queens showed more or less yellow bands. It is all right to so word your ads. that they will increase your business, but no one should call his brother dealer a fraud and humbug. There are such things as yellow or golden Carniolans. The writer expects an invoice of Golden Carniolan bees in June. I insist, and no one can disprove the fact, that the original yellow race of bees was golden Carniolans.

Yours, &c.,

HENRY ALLEY.

Wenham, Mass., May 10, 1891.



The Hen and the Honey-Bee.

A lazy hen—the story goes—

Loquacious, pert and self-conceited,
Espied a bee upon a rose,
And thus the busy insect greeted :

“Say, what’s the use of such as you,
(Excuse the freedom of a neighbor!)
Who gad about and never do
A single act of useful labor ?

I’ve marked you well for many a day,
In garden blooms and meadow clover ;
Now here, now there, in wanton play ;
From morn to night an idle rover.

While I discretely bide at home,
A faithful wife the best of mothers,
About the field you idly roam,
Without the least regard for others.

While I lay eggs, or hatch them out,
You seek the flowers most sweet, and fragrant
And sipping honey, stroll about,
At best a good for nothing vagrant.”

“Nay,” said the bee, “you do me wrong;
I’m useful too; perhaps you doubt it,
Because—though toiling all day long—
I scorn to make a fuss about it !

While you with every egg that cheers
Your daily task, must stop and hammer
The news to other people’s ears,
’Til they are deafened with the clamor.

Come now with me and see my hive,
And note how folks may work in quiet ;
To useful arts much more alive
Than you with all your cackling riot !”

L’ENNOI

The Poet one may plainly see
Who reads this fable at his leisure,
Is represented by the Bee,
Who joins utility to pleasure.
While in this self-concerned Hen
We note the Poet’s silly neighbor,
Who thinks the noisy “workmen”
Are doing all the useful labor !

—J. G. Saxe, from the German.

QUEEN-BEE ITEMS.

A queen bee is very tenacious of life. We have sometimes injured the head, or other parts of their bodies, and have seen the queen turn over and apparently dead, but in a few minutes she would revive and come up as lively as ever.

The clipping of the wings of a queen is cruel, unnecessary and not of the least advantage to the apiarist. In fact, it is a decided disadvantage, and for more reasons than one.

Never handle queens with the hands or fingers, especially a queen that has come out with a swarm. If one is perspiring freely, the moist hands will give the queen an unnatural odor, and her colony will disown her. Queens meddled with under such circumstances, (swarming time), are almost sure to be destroyed. Use a dry stick, or anything to aid the queen if she cannot help herself by reason of defective wings.

A good queen, when in the act of depositing her eggs, always has her head pointing towards the bottom of the hive, while an inferior one, when she lays, is seldom found in that position. This accounts for the fact that while the eggs of the former are all laid in one position, (perpendicular), those of the latter are deposited in all ways.

When a queen commences to lay, she deposits a few eggs on one side of the comb and then goes to the other side and lays in those cells exactly opposite. This she continues to do till the entire comb is filled.

But few of the thousands of those who keep bees ever heard a queen "pipe." The fact that the piping is heard but once a year, and that just before a second swarm issues, is why so

few beekeepers have experienced anything of the kind. By placing the ear to the side of the hive on the evening of the seventh day, or on the morning of the eighth day after the first swarm issued, the piping of the young queens may be distinctly heard. The piping is made with the rapid vibrations of the wings before the queens leave the cells and, curiously enough, no two queens give the same tones. While one queen pipes on a high key, another does so in a low, base tone, and still another appears to be located a long distance away. The reason why the piping is done is not exactly or clearly understood. When the piping commences, the caps of the cells are cut nearly off and the young queens are ready to emerge therefrom. The piping seems to indicate that the unhatched queens are ready to lead off the second swarm, or it may be made by one queen in order to ascertain whether there are other aspirants to the throne of the colony.—*Am. Api.*

LOCATING AN APIARY.

In beginning bee-keeping the location is one of the most important things to be considered. As bees ascend with difficulty when heavily laden, I would have the apiary located in a valley, that after obtaining a load of stores on the neighboring hills, they may, as they return with their load, have a descending flight. Low ground is also better protected from heavy winds. Learn which are the best honey yielding plants and trees, and try, if possible, to locate within reach of reliable pasturage. While bees will go three or four miles if necessary, the best results are obtained, as a rule, by having an abundant pasturage within at least two

miles. Also, look well to the immediate surroundings. A location near ponds or large bodies of water is not generally desirable. Bees become fatigued while on the wing, especially when flying against the wind, and by dropping into the water, often become chilled and drown.

It is a great advantage to have a strip of timber on the north and west side of the apiary to shelter hives from cold and heavy winds. If no natural protection is afforded, a close, high board fence should be put up for the purpose. In building the fence the nails should not be driven in firmly, but should be so left that they may be easily drawn, so that more or less of the boards may be removed during the hottest weather, to permit a free circulation of air. When the hives are not protected from the wind, the bees when returning with heavy loads are frequently unable to strike the hive, are blown to the ground, become chilled and die. It is especially necessary to protect bees during the spring months, because the colonies then contain fewer bees than at any other time; and every bee is needed to keep the brood warm. If one is located where there is but little natural pasturage for bees, much can be done to improve such a locality, by furnishing artificial pasturage.—Ex.

Cook's "Manual of the Apiary" reduced to \$1.00.

Clubbing List.

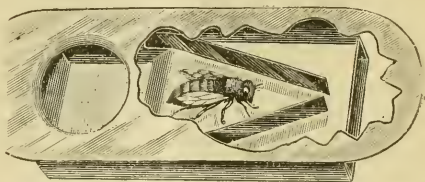
We will send the AMERICAN BEE KEEPER with the—

	PUB. PRICE.	BOTH.
American Bee Journal,	(\$1 00)	\$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(75)	1 15
Gleanings in Bee Culture,	(1 00)	1 35

Bee Escapes.

When it is desired to remove the filled sections from the hive there is always more or less trouble in doing so caused by the bees being among the sections; also, when a combined crate is used and we wish to remove it filled with full sections it will contain a large number of bees whose presence is not wanted. In these cases it is usually the custom to use the smoker and thus drive the bees down or out, but in doing so it gives the honey a bad odor and sometimes even discolors it. The quickest, easiest and by all means the best way of getting rid of the bees is to use a good bee escape. It is used in a honey board placed above the brood frames and under the upper story, super or crate. It is so made that the bees can only get thro' it one way, which is from the upper side, thus allowing them to gradually work their way down into the brood chamber, but making it impossible for them to get back again so that in a little while the surplus apartment of the hive will be deserted.

There have been several different styles of bee escapes invented, the Dibbern taking the lead, but Messrs. R. & E. C. Porter, of Lewiston, Ill., have lately sent us an escape which we think is fully equal to anything we have ever seen. We give an illustration of it herewith.



It is substantially made of tin and has two brass springs so arranged that they will let a bee pass through but effectually prevent it from returning. It is simple and cannot get out of order or become clogged with dead bees.

The American Bee-Keeper,

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THE AMERICAN BEE-KEEPER.

FALCONER, N. Y.

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EDITORIAL.

In another part of the BEE-KEEPER will be found an article relating to Carniolan bees. There has been for a long time considerable controversy over the question of pure Carniolan bees. We have made as thorough investigation of the matter of late, as possible, and will give our readers the benefit of our researches.

In the first place Carniolan bees come from Carniola, a province of south-west Austria, separated from Italy by the narrow province of Goritz. The country there is quite mountainous, the Julian Alps extending between Carniola and Italy. That part called Krain is a very small section situated well up the mountains. From this section come the gray bees, while it seems that in descending the mountain the less gray the bees become, and finally we find them in the valleys almost entirely of a yellow or golden color. This is especially noticable on the southern slope of the mountain.

Whether the yellow Carniolans are a cross of the Italian and gray Carniolan or not, we do not pretend to know, although at first thought it seems quite likely that such is the case, and while it is not at all improbable, we are inclined to believe that the yellow Carniolan bees are as much a distinct type as those having gray coloring, for we are in possession of undisputable authority for the fact that *yellow* Carniolan bees exist in Carniola, and there is no stronger proof of the purity of one type than the other. It is not at all improbable that all Carniolan bees originally came from Italy the same as Italian bees came from Egypt, but owing to the difference of climates they gradually acquired different characteristics. This being the case we would naturally suppose that the gray or mountainous Carniolans would be hardier than the yellow variety coming from warmer climates, although this would not necessarily make the yellow variety inferior for our climate, as the Italians come from a still warmer climate and are regarded by the majority of bee-keepers to be the *hardest* bee we have. Thus we conclude that the Carniolan bee can be either gray or may show yellow markings and still be a *pure* Carniolan, but as to the superior merits of either we have yet to hear conclusive testimony before being convinced.

We note that Mr. Alley says in his communication elsewhere that there is no disputing the assertion that the Golden Carniolans are the original yellow race of bees. We cannot prove otherwise, nor can we disprove the assertion, should one be made, that the Carniolans sprung from the common black bee, that, however, we reason-

bly suppose is not the case. History states that bees were introduced into Italy first from Egypt, and that while the Italian bees radically differ from the Egyptian bees of today, these changes are doubtless owing to the natural outgrowth of the climatic changes and different methods of handling.

By a new ruling the importation of queens into this country by mail is prohibited, and they are subject to a duty of 20 per cent. *ad valorem* when sent any other way. This practically prohibits the importation of queens this season. Nothing can be done to help matters at present, but Prof. Cook will make a personal appeal to the Secretary of the Treasury, so soon as he can find an opportunity to do so, which will probably be about the middle of August. We trust he will succeed in having the ruling changed.

The weather during the past six weeks has been exceedingly dry and cold in this locality, so that bees have done very little. They began brood-rearing several weeks ago and were doing nicely until along came the cold snap, with the mercury down below freezing several nights, killing from two to four frames of brood in each hive. Apple trees and some other fruit trees are now in full bloom and the bees are getting a nice start again, and are storing some surplus. There is still an excellent out look for a good honey season.

We are in receipt of a new mailing and introducing queen cage from the Messrs. Dewey, of Westfield, Mass. It is of a diamond shape and has four compartments, one of which is filled with candy. Into this compartment

are three $\frac{1}{4}$ in. entrances from the outside, so that in introducing the queen can be more quickly liberated. It seems to us to be a very safe and cheap cage. It weighs less than one ounce.

We are also in receipt of a sample cage from Jenkins & Parker, Wetumpka, Ala., which has some very desirable points.

G. M. Doolittle, in the *Missouri Bee-Keeper*, gives some very reasonable ideas concerning the purity of the Italian bees. He thinks, and backs his opinions with good arguments, that the Italians are but a hybrid race after all and that the original races are the Egyptian, Cyprian and German bees. This is in line with our arguments concerning the purity of the Carniolan bees.

Judging from the circular which our friend E. L. Pratt sends out he has at last found the *ne plus ultra* of the honey bee in his so-called Punic bees. If we are to believe all that is written of them they embrace all the good qualities which we have been looking for so long, including that of being practically non-stinging and have no bad qualities.

The *A. B. J.* for May 21st contains a description of the swarm hive invented by Mr. Petrie, which was illustrated and described in the *AM. BEE-KEEPER* several months ago. The *A. B. J.* has the illustration up-side-down, and we doubt if many of its readers will be able to make much out of it.

We are in receipt of the 1890 annual report of the Lancashire and Cheshire Bee-Keeper's Association (England) through the kindness of Col. Herne. It contains a list of 503 members.

We are just in receipt of an article on Carniolan bees from Mr. Frank Benton which contains much valuable information never before made public, concerning the habits of this race of bees. We will publish it in the June number.

The latest acquisition to our office is an Edison Phonograph, which was made necessary by the large and increasing business with which our friends are favoring us. The Phonograph is one of the most modern inventions, and is capable of results that a very short time ago were deemed impossible, not to say improbable.

It consists of a very simple set of devices. There is a brass mandril upon which is placed a wax cylinder. This revolves either fast or slow as may be desired. Upon this wax cylinder rests a small sapphire pointed needle connected with a diaphragm. Above the diaphragm is attached a tube into which is spoken anything desired. The waves of sound thus set in motion cause the sapphire point to press into the revolving wax cylinder, making exceedingly fine lines hardly visible to the naked eye. About eight hundred words can be recorded in this way on one cylinder, and the record is perfect, no matter how rapidly or slowly one talks.

To reproduce the sounds all that is necessary is to move a small lever which brings another small sapphire point to press in the light groove or line made by the sharp point. Another tube for hearing is attached in place of the speaking tube, and as the small point passes along the groove it reproduces, by means of the diaphragm, the vibration very accurately. Every word originally spoken can be heard very dis-

tinctly and can be repeated an indefinite number of times. When the work has been transcribed by means of the typewriter and no further use for it is required, the cylinder is smoothed off by means of a little attachment and the cylinder can be filled up again. This can be repeated fifty or sixty times, so that each wax cylinder will record about 40,000 words before it is used entirely up.

Our phonograph is propelled by means of a small Edison water moter, requiring only a 1-16 in. stream to run it. We find it a great help, as when all our stenographers and typewriters are busy we can take our letters and other matter to the phonograph, and in much less time than the best stenographer can take them in shorthand we can write as much as we wish. This article was originally spoken to our phonograph and was afterwards taken off by one of our typewriters. It was spoken much more rapidly than most of our readers will read it, but the typewriter by turning a screw takes it off as slowly as she wishes.

The phonograph is a source of great amusement, as it will register music much more accurately than the human ear, so that when it is reproduced it is even more entertaining than when originally heard. We have one cylinder on which is registered a piece played by a celebrated New York band, and it is one of the most beautiful pieces of music we ever listened to.

We have several other cylinders containing both classical and comic songs, and when we are tired from writing or other work, or have a few spare moments, we put on one of these cylinders and find therein a great source of entertainment.

Should any of our friends visit us at any time we will gladly entertain them with this little wonder to their hearts content.

We may be able to give an illustration of it next month.



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VOL. I.

JULY, 1891.

NO. 7.

The True Color of Carniolans.

BY FRANK BENTON.

In response to your request for a description of pure Carniolan bees I enclose a copy of the leaflet "Bees," printed Jan 20th, 1886, containing an article on this subject from my pen. Were I to revise this article now, after the additional experience of four years residence and travel in Carniola, I might make slight changes, though not material ones, in its statement. This article was copied shortly after its appearance, by nearly all of the apiarian journals printed in the English language, and also appeared in the *New York World* of May 19th, 1886, and it was then translated into several foreign tongues and published by European journals, the Norwegian version having the name of Ivar S. Young attached to it as its author, (by mistake, of course, you will understand.) It has also formed the substance of all information given about Carniolans in the circulars of breeders of Carniolan bees in this country and in England, in most instances the greater part of the article having been incorporated into these circulars with never a mention of its source. I am also aware that about a year since,

Prof. A. J. Cook, of the Michigan Agricultural College, published this article, with only slight changes, under his own name, in the *American Bee Journal*, whence it was copied by the *British Bee Journal*, and then appeared in French in the *Swiss Bulletin International*, and also in part in Spanish in the *Revista Apicola*, the name of the new author having accompanied each appearance of the article. I humbly beg pardon after all this for laying any claim to it. It is true I wrote it first, and nothing of the sort giving information about Carniolans had previously appeared in any language, but I never for a moment supposed so many would lay claim to its authorship.

In order to give more specific answers to your questions concerning yellow bees supposed to be pure Carniolans, I add herewith a few remarks explaining why yellow blood crops out now and then among the bees of Carniola. These remarks contain some facts not known to me at the time I wrote the article above alluded to.

The purest type of the Carniolan race is dark gray, or steel colored, larger than our common bees, and

wholly free from yellow bands. Whenever yellow is found among bees in Carniola it is to be taken as an evidence of Italian blood. Carniola is located in the southern part of Austria, near the head of the Adriatic Sea, and is only separated from Italy by a single narrow province—Gorizia.

The line between the last named province and Carniola follows a range of mountains extending in a southerly direction from the main part of the Carnic Alps. The history of bee-keeping in Carniola shows that the migratory system has been followed there for some centuries. During the buckwheat yield many thousands of colonies of bees are brought by rail and by wagon from all parts of Carniola, and from adjoining districts toward the centre of the province. I have seen a railway train bearing five thousand hives of bees and their attendants to the buckwheat fields. Some colonies are even brought over the mountain range which separates Gorizia from Carniola, whose elevation is from 1200 to 2500 feet. Bearing in mind that Gorizia borders on Italy and that its surface slopes toward the Italian line and the Adriatic, and, in fact, that between the Carnic Alps and the great valley of the Po, which drains nearly the whole of the northern plain of Italy, there is no mountain barrier to prevent an admixture of the bees native to these districts, it is easy to understand how it is that the bees southwest of the Carnic Alps shade off or merge gradually into Italians, since migratory bee-keeping is not practiced to any great extent in the northwestern province of Italy. With these mixed bees more or less yellow blood has been brought from

Gorizia into Carniola and scattered about. In buying or breeding bees in Carniola I have always avoided queens whose workers showed any yellow or rust-colored tinge. Such bees are generally more irritable than the pure Carniolans; they do not breed true to type, and in fact are more like hybrid bees. Nor have I been able to discover that they possess any traits superior to those shown by the distinctively gray bees which are so largely in the ascendancy all over the province of Carniola. The bees offered for sale in this country under the name of "Yellow Carniolans," or "Golden Carniolans," are simply hybrids; are bees having blood of some of the yellow races—Italians, Palestines, Syrians or Cyprians—in their make up. Verily, some do love the color of gold.

I forbear further remarks, beyond stating definitely my own preferences. For the skilled bee-manipulator, who has no prejudices, but wishes to handle his bees rapidly and secure large quantities of extracted honey, Cyprians pure; a selected strain. For the novice and the producer of fine white comb honey, gray Carniolans, the pure race, always gentle and easily managed.

Look to your hive covers and see that they are tight. A leaky roof is not only injurious to the bees, but spoils the looks of your nice new sections.

Paint your hives in light colors, as dark is too warm in summer and often causes trouble by melting the combs. Unpainted hives look badly, warp, leak, and are soon worn out.

Golden Carniolan Bees.

BY HENRY ALLEY.

I am amused, *greatly* amused, at the arguments published in some of our exchanges to prove that there is no such strain of bees as golden Carniolans. Not since the advent of the Italians has there been such an excitement in the bee kingdom as the golden Carniolans have created. Why all this great noise over such a small matter? This perhaps had better first be explained, as it is the key to the trouble. Jealousy and envy on the part of dealers in dark Carniolan bees seems to be the chief cause of the tumult. They well know that the dark Carniolan bees have one bad fault, or trait if you please, and that is the swarming propensity. They well know that if this bad feature can be bred out and at the same time the golden yellow color bred in that the day of the dark bees has gone by.

Now, having shown why certain parties claim that there are no such bees as yellow Carniolans, let me prove to the readers of the AMERICAN BEE-KEEPER that there are such bees and that one bee-keeper can produce them as well as another. In the year 1880 I ordered and received the first Carniolan bees imported into this country. I soon commenced to rear queens from them. Although they were pure, that is, as pure as any Carniolan bees ever seen here, I could not rear any daughters from the imported mothers whose progeny did not show more or less yellow bands, and this notwithstanding the fact that the Carniolan queens and drones were kept miles from all other bees. I soon got disgusted with these bees as they would swarm when the hive had bees enough

to construct cells. In the year 1888 I again purchased one full colony of Carniolan bees of Lockhart & Andrews. They sent me a fine colony of bees, although there were not any bees showing the yellow bands distinctly, I could see that there were more or less workers that had two indistinct yellow bands. I commenced to rear queens, and in doing so would select the whitest or lightest colored ones for breeders and put into my own hives, as I supposed such would give me almost white bees. I little thought that the light queens had yellow blood in them. Well, the queens were duly fertilized and I watched for results, expecting of course some beautiful iron-gray bees. I need not say I was disappointed. Instead of iron gray bees I had golden yellow workers. "They met and mated with Italian drones," did some one say? Yes, those who do not know say just that. Now wait till I have finished my story and then give your opinion on the point. It will be all the more valuable. Now the above queens were kept two miles from all other bees, and what is more is the fact that in the yard with the young Carniolan queens were several thousand drones and all reared from the same mother as the queens. Every queen was reared with all the care I could bestow, yet were impurely mated, that is, a majority of the worker bees showed more or less yellow bands.

Here is a point. Now if any one desires to produce yellow Carniolan bees what would be the proper step to take to bring about the result? Why, select the lightest colored queens and have them fertilized by drones, reared from the lightest colored mothers. How

many generations do you suppose it would require to produce the most beautiful golden Carniolan bees? See the point? Now, in view of these facts, would it be a strong argument, or any argument at all, as to that matter for anyone to say that *all* my young Carniolan queens went two miles and met Italian drones? Had but few of the several hundred queens I reared produced yellow bees, I could accept this theory, that they were fertilized by yellow drones. I am certain not one of the young queens mated with any but a black Carniolan drone.

With my experience with Carniolan bees I claim and strongly assert that the Carniolan race or strain of bees is the original yellow race. I have given ample proof that this is the case. Now let me give my friends who say there is no such thing as yellow Carniolan bees a nut to crack. During the season I was producing dark Carniolan queens an order was received for six queens. Three Carniolans fertilized by Italian drones and three Italians fertilized by Carniolan drones. Of course I expected the bees to be marked about half and half. This was not so. The bees from both queens were beautiful Italians. There were no dark bees in any of the hives. Any bee-keeper can produce results stated above. Just try it, and then you will not consider the writer as much of a fraud as some people would have you believe.

'Tis queer that the dealers in dark Carniolans assert that there should be no yellow bees from a pure dark Carniolan queen, yet there is not a dealer in dark Carniolans who can produce a queen whose worker progeny are not more or less "striped." I have had

queens of all the breeders: Lowmaster, Dr. Morrison, Pratt, and others.

Allow me one word concerning the yellow Carniolan bees. They possess all the good traits of the dark Carniolan race, and what is a good thing we have had no swarms from them up to date, while all others in our yard have attempted to swarm. The golden Carniolans are a handsomer bee than the Italians; very industrious and gentle. They work when other bees do not venture out. Have seen them working in a rain storm.

To introduce these queens, I propose to give away ten fine queens the first week in July, to the first ten responsible bee-keepers who apply for them, after this reaches the eyes of the readers of the AMERICAN BEE-KEEPER.

Wenham, Mass.

The King Bird.

As there has not been much written on the above subject I will give a few facts that have come under my observation in regard to the ravages of this bird upon the honey bee. It is perhaps not generally known that he does not catch them for food but for the honey that is contained within them, for he will catch a few and when he has extracted the sweet he will eject them from his craw and is then ready for more. I saw one of them recently on a post, and upon examination found the remains of about a half dozen bees that he had just caught and from which he had extracted the honey.

GEO. BACON.

We can not be sure of a good honey crop, but we should be certain to be "all ready" should kind Providence send it along.

Starting in Bee-Keeping.

BY M. H. DEWITT.

It has always been a mystery to me why professional men who have considerable leisure, and especially those who have the time and live in rather adverse circumstances, do not occupy their spare moments in the pursuit of bee culture. When carried on according to the better and more philosophical methods of wintering it is not a risky nor perilous undertaking, and I know of no better opportunity for a young man or boy than to invest the small sums of money he is able to earn occasionally in bees. With a little diligence a few colonies may be increased to a large apiary in a short time, and thereby can be added one more paying branch of business to the farm or town, and cause considerable money to come into the vicinity for the export product of the apiary. In every location where bees are not kept there annually go to waste tons of honey, which is equivalent to dollars and cents. There are but very few well populated sections where a large apiary cannot be supported with profit. The old box hive full of cross bees and crooked combs is not very inviting to one about to engage in bee-keeping, as it takes an expert to put them in shape. We would not advise you to buy bees of any one who does not make them profitable, even if they are offered at a low price, as the bees and the price are generally suited to each other. The first requisite is a good, new bee hive which can be shipped by freight. The next in order is a pound of bees, a queen and one or two frames of brood the same size as the frames in the hive to be used—these to come by express; also comb

foundation enough to fill the frames in the brood chamber after the bees and brood are put in. Apiarists are not often willing to divide the bee pasture by supplying their near neighbors with bees and for this reason they must usually be purchased from a distance. Small packages of bees ship safely and cheaply. You can buy boxes for this purpose of any supply dealer. May and June are the proper time for buying and selling. You will often find vicinities where bees are plenty and cheap, and by having a lot of shipping boxes on the wagon, they can often increase their business trading hives for bees. They may be put in the boxes, weighed and nailed up, and hauled in a spring wagon a week if necessary, until a customer is found for bees and hive. A good first swarm weighs from four to five pounds, but three pounds of bees shaken from the brood combs are worth just as much, because the latter will contain but few old bees. A frame of brood 12x12 is equal to a pound of bees; and one pound of bees and two frames of brood are as good a start as a first swarm, and much safer, as the brood will keep them from absconding. I would say to beginners who order bees by express: On arrival of the small box, it should be opened and the brood combs hung in the hive ready for them. The bees should then be shook out of the box into the hive and sheets of foundation placed at the sides of the brood combs. Close the hive and the bees will go to work very soon carrying in honey and pollen. In a day or two the cells on the sheets of foundation will be lengthened and the queen will be depositing eggs. Such colonies are not usually cross and may be examia-

ed every day. A beginner needs practice in manipulating bees, and he should look up the queen daily to give him this experience, and by the time the bees become a strong colony the owner has become capable of handling them. I would not advise you to buy less than a pound of bees and a queen. If a better start is desired a frame of brood should be added. If the season is advanced two frames of brood will be necessary.

I would be pleased to receive price lists from all supply dealers. Send me your lists, also prices of queens, &c.

Sunny Side, Garrett Co., Md.

No Duty on Queens.

BY F. H. & E. H. DEWEY.

Bee-keepers have again to thank Prof. Cook for his untiring and unselfish interest in their behalf. It is through the result of his efforts largely that we may now receive from Italy or any other foreign country without embarrassment the best queens obtainable. The duty of 20 per cent. *ad valorem* became of consequence only in large orders, and in case of replacing a dead queen became essentially a 40 per cent. duty. The writers have paid probably the only duties which this government will collect upon imported queens, that shipment being received before it was fully known to the public that a tax had been applied. A number of queens received June 15th came free of duty. We had written to Washington, and an extract from the reply may be of interest. After an explanation of the statute as it stands and of the impracticability of registering queens as required, the department recommends the collector

of customs to admit queen bees clear of usual inspection, in fact recurring to the act of March 3d, 1883, relating to this subject closing by saying, "The department is therefore of the opinion that it was not the intention of Congress to change the practice in the matter of the free entry of queen bees imported for breeding purposes and that queen bees of recognized breeds may properly be admitted to free entry under the provision of paragraph 482 without the certificate of record and pedigree specified therein."

Prof. Cook has taken an active part in obtaining this ruling, and the thanks of the bee-keepers of America are due him for the interest he has taken in the matter. Many American reared queens are as good as the imported, still we must draw occasionally from the fountain head, and easy access is desirable.

Westfield, Mass.

As soon as bees fly in the spring their brood nest should be contracted with a division board or dummy, to suit their requirements for space. Some prefer double walled hives and others those with single walls. I have handled bees in single walled hives without loss for nine years. Good hives are easier to handle. Make them right. More of the latest improved Langstroth hives are used than any other hive in existence. Good stocks in easily handled hives give a good crop year after year in almost any locality. The farmer who selects his best animals for reproducers and takes good care of his stock is the most successful. If we select for reproduction the progeny of our best queens we are favored with good prolific queens and honey gathering stock.....J. Minor.

Proceedings of the Erie Co. Bee-Keepers Association.

The second meeting in 1891 of the above association was held in the M. E. Church, at Sardinia, June 2d. After the opening formalities were over with, the president, Mr. L. D. O'Dell, requested all apiarists present to give the number of colonies of bees of both fall and spring count. The president reported 98 fall, 52 spring. S. S. Sleeper, 132 fall, 111 spring. Chas. Penton, 75 fall, 35 spring. Milton H. Pitcher, 77 fall, 23 spring. Edwin Rice, 86 fall, 76 spring. Aaron Karney, 15 fall, 11 spring. Mrs. Crosby, 42 fall, 42 spring. A. Graves, 13 fall, 11 spring. Wm. Eastman, 13 fall, 6 spring. Mr. Briggs, 5 fall, 5 spring. B. Briggs, 6 fall 6 spring. V. Johnson, 11 fall, 10 spring. John G. Goodremote, 54 fall, 49 spring. H. Butler, 16 fall, 10 spring. Mr. Andrews, 51 fall, 41 spring. B. Goodin, 22 fall, 14 spring. R. M. Ballid, 55 fall, 51 spring. Rob't. Meatyard, 63 fall, 23 spring.

Chas. Penton read an interesting paper on feeding bees, followed by some very interesting remarks by Rev. Vaught, during which he gave the association a hearty welcome.

Some very fine music was furnished by Prof. Knott and Willie Pitcher.

An invitation was extended for new members, to which several responded.

The question box was then opened and the following questions discussed:

"How can I best increase one colony to four, using full combs and sugar for feed?"

S. S. Sleeper.—Would increase by natural swarming if at all."

Luther Corey.—Would increase by division," and gave his method.

"Will foul brood exist in foundation?"

Elmer O'Dell.—"Think heating to the boiling point destroys the germs of the disease."

S. S. Sleeper.—"Heating to 212 degrees will not kill the microbes in all stages, and it will be necessary to heat the wax several times in order to entirely destroy them."

"Is there any way of separating pollen from beeswax?"

Addison O'Dell.—"Place the melted wax in a warm place so that it may cool gradually. The pollen will settle to the bottom of the cake when it may be easily scraped off." Luther Corey agreed with this and would always melt with water.

"What do bees gather from tamarac and balsam trees?"

S. S. Sleeper.—"Propolis."

A. Graves.—Propolis."

S. S. Sleeper read a paper entitled, "Bee-Keeping, a Proper and Legitimate Branch of Agriculture."

"What is the cause of our heavy losses in bees the last winter?"

Mr. Briggs.—"My bees starved to death."

Aaron Karney.—"Queenlessness and starvation."

Luther Corey.—"There were different causes."

Chas. Penton.—"Extracting from the brood chamber."

Addison O'Dell.—"Lack of fall flow of honey. Did not breed late in the season, consequently went into winter quarters with old bees." Milton Pitcher agreed with the last, and the general opinion was that it was on account of the lack of fall flow of honey, as several who had such wintered their bees well.

"Is it profitable to feed artificial pollen early in the spring? If so, what kind is best?"

S. S. Sleeper.---"When they cannot obtain natural pollen it will be profitable. I use rye and beans ground fine in the proportion of two parts of rye to one of beans."

Mr. Meatyard.---"Have used wheat flour with good results."

"What is the best way of stopping robbing?"

Mr. Eastman.---"I contract the entrance to one bee space and smoke the colony that is doing the robbing."

A. Graves.---"Would anger with a feather those that refuse to guard the hive."

Chas. Penton.---"I find the colonies that are doing the robbing and gash their frames with honey."

"How can we best preserve our surplus combs?"

S. S. Sleeper.---"Store them in a dry place, putting them about one inch apart, and fumigate them frequently with sulphur."

"Which are the best bees, the Italians or Blacks?"

S. S. Sleeper.---"For gathering honey, the Italians by all odds."

Elmer O'Dell.---"The Italians are far superior when running for extracted honey. For comb builders I prefer hybrids."

"Why does some honey candy while other does not?"

Elmer O'Dell.---"Difference in the honey."

Springville was chosen as the place for the next meeting.

After a vote of thanks to Rev. Vaught, and to the people for the use of the church, and to Prof. Knott for his fine music, the meeting adjourned.

ROBERT E. MEATYARD, Sec'y.
Ellicott, N. Y.



ED. AM. BEE-KEEPER: We noticed in the June number of the BEE-KEEPER an article by Mr. Robinson, of Richford, N. Y., describing the Krainer or Carniolan bees. We confirm each and every statement made by Mr. Robinson regarding the markings and color of the pure Krainer or Carniolan bees.

We have imported more or less queens from Austria, which came from different parties, and we have had queens from certain parties whose progeny would show more or less yellow on them, but since we have been able to get the gray Carniolans whose progeny positively show no yellow on them we have discarded the yellow variety for the gray. We have given each variety a thorough trial side by side, and we find that the gray variety has superior qualities over the yellow. We find the grays are more gentle and not so inclined to swarm as the yellow variety. Another difference quite noticeable between the varieties is in the color of the queens. The gray Carniolans always have a queen of a deep copper or bronze color, and all daughters of such queens are duplicates of their mothers as to color, etc., while the yellow Carniolan queens will produce daughters as light as any golden Italians and others as dark as any black queens. This shows that the yellow Carniolans are a cross of the Italians and gray Carniolans. This is a very good reason why yellow Car-

niolan queens do not duplicate themselves, we think.

The above is our experience with the gray and yellow Carniolans. Let others give their experience.

Yours, &c.,

F. A. LOCKHART & Co.
Lake George, N. Y., June 11, '61.

W. T. FALCONER MFG Co., Gentlemen: The goods ordered of you were received in fine condition, and were first class in every respect. I never bought nicer hives than your dovetailed hives are. They can't be beaten in workmanship and material.

Yours truly,

J. B. BRANDS, P. M.
Warrington, N. J., May 28, 1891.

ED. AM. BEE-KEEPER: Please let me know through the BEE-KEEPER what ails bees when they get black and glisten, and finally their bodies become shrunken and pointed wings half gone. Also, why the bees drag them out and gather at the entrance and on the alighting board and pull and haul at them? Is it a disease? It attacked the bees in this neighborhood last year. If it is not a disease it is a very great detriment, for I lost two swarms this winter so affected. They seem to die without cause.

W. D. MELICK.

Simbury, Pa., May 23, '91.

[We do not think the difficulty you have experienced can be regarded as a disease. The bees with black, shining and shrunken bodies are evidently old bees which are dying of old age, and the live bees of course carry them out of the hives. The cause of there being so many more old bees last winter was the fall flow of honey stopped quite early, consequently the bees stopped breeding earlier than usual.

The trouble you have does not occur when there is a late fall flow of honey so that bees can keep breeding until cold weather. Perhaps the black, shiny bees are robbers.]

W. T. FALCONER MFG Co., Gentlemen: Inclosed find check to balance my account. The goods arrived in good shape and are the most perfect we have ever bought. Yours, &c.,
HUBBELL & POTTER.

Clayville, N. Y., May 28, 1891.

ED. AM. BEE-KEEPER: I have just been reading the BEE-KEEPER this morning, and find it to be just the paper for beginners. I noticed what M. H. DeWitt says in regard to artificial increase: to be slow about it; and also that Mrs. S. E. Sherman say: "Don't begin on too large a scale. Get one or two colonies, etc." Beginners generally make too large calculations only to have their hopes soon blighted. This is my experience.

About three years ago I came to the conclusion that I would try the bee-keeping business. I went to a man that had both Italians and blacks. He showed me a hive of Italians, the lower story of which was pretty well filled with bees and comb. He asked me \$10.00 for the hive and swarm. I thought it was pretty high, but told him I would let him know during that week. After thinking the matter over a day or two I concluded to take the bees and notified him to have the hive ready for me by Saturday morning as I would take it home that day. When I went after it he had it all closed up. I paid him the \$10.00 and took my Italian bees home to go into the bee business. When I reached home I took off the cover to see if the frames were all in place, and behold there

were only two frames in the hive that had comb in them, and there was about a quart of bees. This was my first di-appointment. After I saw that I was badly beaten I hoped to build up the few bees that cost me \$10.00 so that I would come out all right anyway, but as that season was a poor honey season I made slow progress. I got the colony built up so that it wintered, but it came out very weak in the Spring. About the first of June the Italians all disappeared and my bees were all blacks. This was my second disappointment.

In the fall of my second year my little colony of black bees was hardly better if as good as it was the first year. By this time I was thinking that \$10.00 for that colony was an awful high price. In the fall of the second year I purchased a pound of bees with an Italian queen from a first class bee-keeper; killed the black queen and put the Italians in with the swarm of black bees. I also purchased a pound of Italian bees with a queen from another party, and these I built up to a fairly good colony, so in the fall of the second year I had two colonies. The following spring I cut a wild bee tree and hived the swarm, and sold a bee hive to a neighbor for two other swarms, so I had five. I got one artificial swarm, making six for last winter. All came through in good order. Now, I made pretty large calculations as to how I would increase this summer. I had found four bee trees last fall and intended to cut them down and get the swarms. I went to the first prepared with axe, hive, smoker, etc., but some one had been there before me, cut the tree down and got all the honey. The second tree

I cut down, hived the bees and took them home. In the third tree the bees were all dead. I cut the fourth tree the first day of June and got a big swarm of bees, but while I was out getting these bees a rousing big swarm came out of one of my hives of Italians and went into the woods. This made me feel somewhat discouraged, but I thought if the big Italian swarm had gone I had secured a big lot out of my tree, but yesterday they swarmed out of the hive, leaving three frames filled with sealed brood that I took out of the tree and fixed into the frame, and went off to the woods to find a home more suitable for their wild natures, so you see I am about discouraged. Out of the four trees I secured only one swarm.

The beginner, when he makes his calculations, had better figure to reduce them about one-half or three-fourths or he will be greatly disappointed. Yours, &c.,

JOHN SLAUBAUGH.

Eggon, W. Va., June 5, 1891.

W. T. FALCONER MFG Co., Gentlemen: The goods were received all right and are very satisfactory as to quality, price and freight. My bees are doing well considering the backward weather. Yours, &c.,

THOS. G. KELLEY.

Slippery Rock, Pa., June 8th, 1891.

W. T. FALCONER MFG Co., Gentlemen: Excuse me for not acknowledging how well the hives suit. They are beauties and cheap enough. I believe they have paid for themselves by the increased sales of honey caused by the attention they have created.

Boston, Mass. CALVIN W. SMITH.



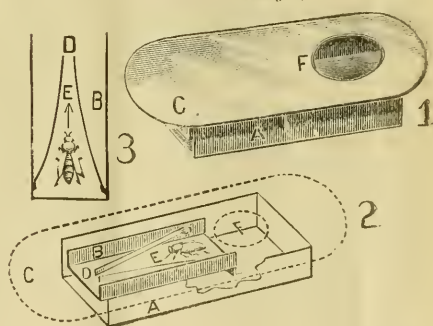
TAKE THE FRAME HIVE.

What style of hive shall I use? is quite a prominent question in the mind of the farmer who is just starting in bee-keeping, and desires to raise only honey enough for use in his family. Usually a rough box is nailed together, or an old nail keg is improvised and the bees are hived with the idea of taking the honey in the fall, by brimstoning the bees, but when the end of the season is reached, the colony having done so well and filled the hive, the farmer guesses they will winter and the use of match and brimstone are deferred. Perhaps it is applied to some old swarm and the honey obtained for family use is a mixture of old comb, dark honey, bee-bread, etc, not very inviting for the family or any one else to use. If the farmer is at all progressive in his ideas, he will naturally apply the same progressive ideas to his growing apiary. I would therefore recommend any good movable frame hive, preferring some of the later paterns. In the use of an improved hive the honey is secured in the best marketable shape. The farmer may not be particular how nice the honey may look upon his own table, but I think it pays to have it as beautiful on his own table as anywhere. If more honey is raised than the family can consume, what an acceptable present one of these 1 lb. sections makes. If the bees are in an improved hive there will be no necessity of brimston-

ing the weak colonies. Such colonies can be easily strengthened by giving to them from their strongest neighbors combs of unhatched brood, or two weak colonies can be doubled into one by simply removing empty combs and inserting those filled with honey and covered with bees. Another advantage in having bees in an improved hive is their salability. There is always in the spring a demand for bees if they are in such a hive, while the box hive or nail keg colony will go begging for a purchaser. A few persons in every community should keep bees, for they are indispensable for fertilization of many kinds of flowers that are necessary to the well-being and prosperity of the farmer.---F. and H.

THE PORTER SPRING BEE-ESCAPE.

(From Gleanings.)



Engraving No. 1 shows the escape complete, which, when placed in an escape-board, is ready for use. The bees enter the escape at F and pass out at D, as shown in cuts 2 and 3. The escape proper, as shown at A, is $2\frac{3}{4}$ inches long by $1\frac{1}{2}$ wide and $\frac{1}{2}$ inch deep. The top piece C is $4\frac{1}{4}$ in. long and $1\frac{3}{4}$ in wide. The part B, containing the springs as shown in cut No. 2, is $1\frac{3}{4}$ in. long, 1 inch wide and $\frac{1}{4}$ inch deep. The object of this inner part

B, is to admit of a depression under F for the reception of dead bees that may chance to get into the escape. A dozen or twenty dead bees may get into the escape and not interfere with the bees out between the springs. To prepare the escape for use, make a plain board of $\frac{1}{2}$ inch material, the size of the top of the hives on which it is to be used. Cleat the board at sides and ends so as to provide the necessary bee-space above or below the board. Bore two holes $2\frac{1}{4}$ inch apart from center to center, and near the center of the board, with a $1\frac{1}{2}$ inch bit, and cut the intervening wood; drop the escape into this opening and it is ready for use.

To adjust the escape-board on the hive, remove the hive-cover. A few puffs of smoke are necessary to prevent the bees from becoming angry. Raise the super, place the board on the hive, and set the super on the board, and return the hive-cover. All is none in less time than is required to write this sentence, yet this is all the time required by the bee-keeper to remove the bees from the super, as the bees pass out at their leisure, and the super is taken to the honey-house at any convenient time after the bees have deserted it.

During the season of 1890 I removed all my comb honey, about 2500 lbs., from the hives by the use of escapes, and experienced less inconvenience and annoyance by robbers or bees in my honey-house than I have frequently experienced in removing a couple of hundred pounds by the old method of smoking, shaking, and brushing of the bees from the supers.

I used four different patterns of escapes—the cone, trap-door, Porter

spring, and Mr. Dibbern's latest pattern. Tripple-cone escapes made of perforated tin work quite well at times. Occasionally quite a number of bees find their way back through the cones into the super.

The trap-door escape works nicely for a little while, but they are soon rendered useless on account of propolis.

Mr. Dibbern's new escape gave very poor results, as, in my first trial with it, there was very little decrease in the number of bees in a T super in 24 hours after adjusting the escape on the hive. My second trial was but little better, as only about half the bees were out of the super in 24 hours. In subsequent trials it worked some better, but not any better, if as well, as the cone escapes, as the bees are slower in passing out through the Dibbern. I very much dislike the Dibbern-escape, for two reasons: *i. e.*, it is just as liable to clog up with dead bees as the cone escape is, and there is no way of clearing it out or knowing that it is or is not in working order without taking it apart.

The only objection I see so far to the Porter spring escape is, that it has no *automatic* principle that will extract the bees from the supers in a given time; and the bees of some colonies, under certain conditions of weather, are very slow to move out; but once they are out, they are certain to stay out.

While the bees have shown a disposition to propolize the perforations in the perforated tin cone escapes, and plaster over those made of wire cloth, and glue the doors of the trap-door escapes fast, they have put but very little propolis into the spring escapes, but not enough to interfere with the working of the springs in the least.

But little need be said concerning the utility of a practical bee escape for removing comb honey from the hives. Any bee-keeper who has gone through the vexations of removing his comb honey from the hives during a honey dearth will agree with me that it is any thing but a pleasant task; while with a practical escape the vexations are all removed—no brushing, no shaking of bees, no robbing, and no bees in the honey-house. The escape-boards can be adjusted at any time of day, and is done so quickly that the robber bees have no chance to get a start. The supers can be taken off at the bee-keeper's leisure after the bees have deserted them, which is usually from five to eight hours. Many of my supers were carried in early in the morning, without hat or veil, while the good wife was setting the breakfast.

Concerning the inventors and manufacturers, R and E C. Porter, of Lewistown, Ills., of the Porter spring escape, I will say, that, so far as I have been able to learn, they are the oldest practical bee-keepers in this part of Illinois. At present they do not keep a very large apiary, only some 60 or 80 colonies, on account of so many bees near them. In 1882 they obtained between 9000 and 10000 lbs of extracted honey from about 80 colonies. In 1886 they obtained 10,000 from about the same number of colonies.

Their escapes have been as thoroughly tested as one season's work can test them, and they are well enough pleased with them to manufacture several thousand of them, and I presume they will advertise and put them on the market at once.

S. A. SHUCK.

Liverpool, Ill., April 9.

[Many thanks for your valuable article. We, too, have been experiment-

ing with different styles of bee-escapes; but none do the work so perfectly as the Porter, illustrated above. It would get EVERY BEE out of the upper story, even off combs of brood. With the Reese and Dibbern escapes, a few bees would be left, they having evidently found their way back; and once or twice we found them clogged with dead bees. We have just received a few samples of the Porter escape. They are beautifully made, and the price is moderate. If this escape shall do as well as it has done for you and ourselves, the two Porters deserve a vote of thanks for a perfect bee escape, and the right of exclusive manufacture, whether they have a patent on the same or not. We presume a good many of them will be sold, and we should like to have reports of where thorough tests have been made. The propolizing feature of the Reese and Dibbern, as well as their occasional clogging with dead bees, is rather against them. The two brass springs at the point D, in the Porter, are so exceedingly sensitive, that, if a bee were to touch them with its manibles, I imagine they would tremble so that the little propolizer would become cross-eyed in trying to keep track of the oscillations, and give the matter up in disgust.

E. R. R.

Don't spray the fruit trees while in bloom; it is but time and material wasted, and may kill your own or your neighbor's bees.

If you expect to produce honey for market, be sure to have it in nice shape. This means new sections, comb foundation, separators, and new, clean shipping cases to pack it in. The time for the old style of bee-keeping to pay has passed, never to return.

The American Bee-Keeper,

PUBLISHED MONTHLY BY
THE W. T. FALCONER MANFG CO.

TERMS:

50 cents a year in advance; 2 copies, \$5 cents; 3 copies, \$1.20; all to be sent to one postoffice.
Postage prepaid in the U. S. and Canada: 10 cents extra to all countries in the postal union and 20 cents extra to all other countries.

ADVERTISING RATES:

15 cents per line, 9 words; \$2.00 per inch. 5 per cent. discount for 2 insertions; 7 per cent. for 3 insertions; 10 per cent. for 6 insertions; 20 per cent. for 12 insertions.

Advertisements must be received on or before the 20th of each month to insure insertion in month following. Address,

THE AMERICAN BEE-KEEPER.

FALCONER, N. Y.

Subscribers finding this paragraph marked with a blue cross will know that their subscription expires with this number. We hope that you will not delay in sending a renewal.

A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

In this and the previous number of the BEE-KEEPER we have endeavored to give our readers a fair and impartial discussion on the Carniolan bee question. The articles published are by the best authorities. We have had several other articles offered, but owing to their personal nature we declined to publish them. Two such articles appeared in the last number of the *Missouri Bee-Keeper*, both being virulent attacks on the yellow type of Carniolan bees and especially aimed at certain breeders of such. We dislike to see articles of such nature appear in any journal. Personalities are of no interest to the general reader, and to the well balanced mind are indeed offensive. They lower the tone of whatever paper in which they appear. The AMERICAN BEE-KEEPER intends to be a fair and impartial

medium through which any bee-keeper can advance his ideas or theories, but under no circumstances will we allow an article of a personal nature to appear. We hope our friends will bear this in mind at all times and will eliminate from their articles which they may send us for publication any personal references.

The weather has been very favorable in most localities during the past few weeks for a large flow of honey. In some places it was almost too dry as it was here but during the past week we have had copious rains and the bees are doing nicely. From the numerous reports which we have received from different parts of the country, we estimate that there are at least one-third less bees in the country than a year ago, and many colonies are very weak. The indications are that those bee-keepers who have strong colonies will reap a good harvest, and owing to a decreased production of honey will receive good prices. About two months ago we prophesied that this would be a good honey season. Up to this date our prophecy has been fulfilled. Unless something entirely improbable or unlooked for occurs, the season will be of much profit to the wide-awake bee-keeper.

"Advanced Bee-culture," by W. Z. Hutchinson, Flint, Mich., Price 50c. This is a very clear and concise work on bee-culture by one who knows of what he is writing. It treats of the different branches under appropriate heads, and while the name would indicate that the work is more especially adapted to those bee-keepers of considerable experience, it is, however, of as much value to the beginner.

We give our readers in this number of the BEE-KEEPER two very important articles concerning Carniolan bees. One from the pen of Mr. Frank Benton, who was the first to give to the bee-keeping world any definite information concerning that race of bees, and the other from Mr. Henry Alley, one of the oldest and most experienced bee-keepers, queen rearers and authors of bee publications in this country. The one defending the gray type and the other the yellow or golden bees. Each writes ably, and we will leave to our readers to judge for themselves of the merits of each type. The question at issue is of as much or perhaps more importance to the beginner or inexperienced bee-keeper, than to the older heads, for the former, owing to lack of knowledge, is more apt to spend his money for worthless queens and bees, while the experienced bee-keeper knows just what he wants and is not often misled. It is well for the beginner to become acquainted with the natural history of each race or type of bees.

We are in receipt of official notice to the effect that we have been awarded the highest premium, a silver medal, for our display of apiarian supplies at the Jamiaca International Exposition, which was held recently at Kingston, Jamiaca. We also lately received a bronze medal for our exhibit at the Paris Exposition held two years ago. Right here we might mention that we have never failed to receive the highest awards for our exhibits whenever we have exhibited our goods in competition with other manufacturers. At Buffalo and Detroit Expositions, where we made large exhibits

two years ago, we received no less than twelve first premiums, including one silver medal. These facts will indicate to a large degree the high merits of our goods.

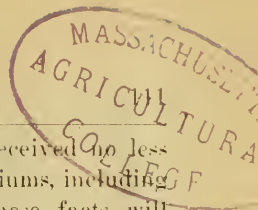
We received a very pleasant but brief call from "Rambler" a few days ago. He was on his way from the east to California, where he intends to locate permanently at Sacramento, and engage in the manufacture of bee hives.

THE NEW WINTER CASE.

Many of our friends and customers are asking us what success we are having in the sale of our New Outside Case and Winter Hive. In reply to all such enquiries we would say, orders are coming in quite numerously for them, and every one who has purchased any of them seem well pleased. We honestly think they give more general satisfaction than any other hive or method of wintering. Their extreme cheapness and unexcelled convenience makes them very desirable.

Messrs. Lockhart & Co write us under date of June 18th, that they never saw bees gather honey so fast as they did at that time, some colonies having 40 pounds of surplus already. They report having had only one new swarm, and conclude as follows: "How does that sound for Gray Carniolans?"

Attention is called to the advertisement in another column of J. M. Olin, who offers an untested Italian Queen with a years subscription to the BEE-KEEPER for \$1.00. We are personally acquainted with Mr. Olin, and believe he has a fine strain of bees.



J. B. Mason has returned to Mechanic Falls, but does not intend to remain. He writes us that he will soon locate permanently in Los Angeles, California, and go into bee-keeping and the supply business.

Cook's "Bee-Keeper's Guide," 460 pages, (revised,) reduced to \$1.00.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

	PUB. PRICE.	BOTH.
American Bee Journal,	(\$1 00)	\$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(75)	1 15
Gleanings in Bee Culture,	(1 00)	1 35

Cook's "Manual of the Apiary" reduced to \$1.00.

Book for Advertisers.

Geo. P. Rowell & Co., of New York, publishers of the American Newspaper Directory and of PRINTERS' INK, a journal for advertisers—the oldest and best known of all the advertising agencies—conduct their business in such a way as to make it a material benefit to both advertiser and newspaper publisher.

They furnish plans for an advertiser and prepare his advertisement. For their services—designing his advertisement and preparing his estimate—they make a sufficient charge to pay for the required service of persons competent to do the work well. They tell the advertiser what papers he should use and what the price will be. If the advertiser wishes them to place the advertisement in the papers, they do as he directs, and for that service the newspapers pay them. If the advertiser wishes to place his advertising through some other advertising agency, or to contract with the publishers, he is at liberty to do so, and the estimate furnished by Messrs. Rowell & Co. serves as a guide. It tells him where he is securing a bargain and where he is paying more than he ought.

Every one who is in need of information on the subject of advertising will do well to obtain a copy of Geo. P. Rowell & Co.'s "Book for Advertisers," 368 pages, price one dollar. It is mailed, postage paid, on receipt of price, and contains a careful compilation from the American Newspaper Directory of all the best papers in the United States and Canada. It gives the circulation, rating of every one and a good deal of information about rates and other matters pertaining to the business of advertising.

Whoever has made himself acquainted with what may be learned from this book will admit that from its pages one may gather pretty much all the information that is needed to perfect an intelligent plan of advertising. It is not a complete newspaper directory. It is much better; for although it names barely one-third of the newspapers published, it does enumerate every one of the best and all that a general advertiser is likely to have occasion to use.

Among the papers named in it The American Bee-keeper occupies the position to which its merits entitle it.

We are in receipt of an announcement from Wm. F. Clarke, Guelph, Canada, that on May 20th he instituted at that place the Ontario Bee-Keeper's College. We have not learned what success he attained, but we hope he has had a generous support.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

NEW YORK, June 22.—The demand for honey is very quiet and it is coming in quite freely. Price of comb 14@16c for choice. Extracted 7@7½c per lb. There is a fair demand for beeswax with a very small supply. Prices are firm at 30@31c.

F. G. STROHMEYER & Co.

NEW YORK, June 20.—There is a fairly good demand for honey. New Southern is arriving freely. We quote strained at 70@80c per gal. Extracted 7@7½c per lb. The demand for beeswax is limited. The prices are 28@30c. There is a fair supply.

HILDRETH BROS. & SEGELKEN.

ALBANY, N. Y., June 22.—The demand for honey is very light and there is none in the market. Price of comb 10@15c. Extracted 7@9c. Beeswax is very quiet with a fair supply; price 26@28c.

CHAS. W. MCCULLOCH & Co.

ALBANY, N. Y., June 20.—Honey is in slow demand with light supply. Price of comb 12@18c. Extracted 6@8c. Good demand for beeswax at 28c; small supply. Berries and fruit are cheap and taking attention from the honey market.

H. K. WRIGHT.

CHICAGO, ILL., June 22.—The demand for honey is slow with a light supply; prices 12@16c. There is a fair demand for extracted honey at 7@7½c. Beeswax is good demand with small supply; prices 28@30c. The stock of comb honey is light and consists of dark one and two pound sections. There is very little white clover honey.

S. T. FISH & Co., 189 S. Water St.

BOSTON, MASS., June 22.—The demand for honey is very poor, with a small supply. Price of comb 14@18c. Extracted 7@8c. Beeswax in fair demand with small supply. Price 25c.

BLAKE & RIPLEY, 57 Chatham St.

KANSAS CITY, MO., June 20.—The demand for honey is very light and the supply is small. Price of comb 14@15c. Extracted 6@6½c. Beeswax is in light demand with small supply; price 2½c. There is no choice one pound comb honey on the market, and no new honey has yet arrived.

CLEMONS, MASON & Co.

KANSAS CITY, MO., June 22.—No choice one pound comb honey on the market at present. Dark one pound, 12c; 2 lbs 10@12c. Extracted 6@6½c. Beeswax 28c.

HAMBLIN & BEARSS, 514 Walnut St.

ST. LOUIS, MO., June 22.—There is only a moderate demand for honey with a good supply. Price of comb 12@13c; extracted 5½@7c. There is a fair demand for beeswax with a small supply; price 28½c.

D. G. TUTT GRO. CO.

CINCINNATI, O., June 22.—There is a good demand for all kinds of honey with a good supply; price of comb 14@16c; extracted 5@5c on arrival. Demand for beeswax is fair, with a good supply; price 25@28 for good choice yellow on arrival.

CHAS. F. MUTH & SON.



PUBLISHED MONTHLY BY THE W T FALCONER MANFG CO

VOL. I.

AUGUST, 1891.

NO. 8.

Robbing, Italianizing and How to Introduce Queens.

BY M. H. DE WITT.

If August were a good honey month the bee-keeper would soon become rich. The hives are crowded with bees, but they have nothing to do but to idly fly about and consume their winter stores. During this month and the whole of autumn, after the honey flow ceases, great care should be taken to prevent robbing. If your colonies are equally strong, there will be little danger of losing any from this cause, but the weaker ones are usually severely tried by their greedy and more populous neighbors. The entrances of all hives should be contracted and especially those which contain the weakest colonies. In working with the bees the hives should not remain uncovered longer than necessary. If bees do not get a taste of honey they will not be nearly so troublesome, but if they once get a start they are sometimes almost uncontrollable. In this case all work should be suspended until they become quiet again. If robbers are very numerous, a bee tent will be found very useful while manipulating the hives. Italians are not as prone to rob as blacks. Now is a very

good time to improve your stock of bees, or to Italianize them, as it will not interfere with honey gathering. Instructions are given below for Italianizing. It is no doubt understood by this time that all that is necessary in order to change a colony of black bees to pure Italians, is to procure a pure, tested Italian queen and introduce her to them, and in a short time they will be changed to that race. I remember the first Italian queen I ever purchased. It was several years ago. I introduced her to a colony of black bees, and in about six weeks they were changed to pure Italians; the black bees having died of old age in that time, and their places were taken by the progeny of the Italian queen.

TO GET THE QUEENS FOR ITALIANIZING.

Queens are now sent safely by mail to almost all parts of the world, and those wanting queens can get them cheaply and conveniently. Make sure to buy of a reliable dealer—one who understands what scientific queen raising is. I will now give you instructions for introducing queens.

Now the colony we wish to introduce the queen to must be made queenless a few hours until they be-

come aware of the fact and then give them the caged queen, which can be laid on top of the brood frames if the weather is warm, or the caged queen can be placed between two brood combs, which is rather the best plan. It usually takes 24 to 48 hours before the bees will accept the strange queen. Sometimes it will take three or four days, and in extreme cases it will take a week. The queen should not be let out until the bees become friendly toward her, which we have to judge of by their actions. So long as the bees cling to the cage in a close cluster seemingly to try their best to get to the queen it is not safe to let her out. We must wait until they are walking leisurely about over the cage, not paying any particular attention to the queen, and then we can let the queen out with perfect safety. In letting her out if they attack her, or "ball her," you should cage her and wait another day. And by that time I think they will accept her without any trouble.

Sunny Side, Garrett Co., Md.

Except during a honey flow bees from other hives will pounce upon any honey left exposed. If one bee that may be hovering about searching for such a chance discovers it and secures a load he quickly returns with a score of companions and they in turn, if successful, will each bring as many more and a large quantity of honey will be carried away in a short time, as well as a great uproar caused, during which there is danger that every person or animal any where near will be severely stung. So look out and don't give one robber a chance.

Bee Pasturage in Texas.

BY MRS. S. E. SHERMAN.

The first thing from which bees get pollen in the very early spring, (generally in February), is the wild privet; a shrub or bush which is literally covered with very small flowers that are so near the color of the bark that a casual observer would never think of the bush being in bloom, nor notice the flowers. Not so with the interested bee keeper who is ever on the lookout for anything that may be of any assistance to their ever industrious co-workers, the bees. From this source they get quite a lot of pollen, which stimulates them to activity, and brood rearing begins.

The next thing from which they get a great deal of pollen is the water-elm, which generally blooms about the first of March. They may, and I suppose do, get some honey from these flowers, but most of the bees come in heavily laden with pollen, and brood rearing is by this time on a "regular boom," as a reporter would say.

I have had bees swarm as early as the eighth of March. By this time fruit trees, both in orchard and forest, are sending forth their first flowers, which, of course, are visited by the bees. A little later on, hoarhound, which grows more abundantly and luxuriously here than in any other place with which I am acquainted, begins to unfold its tiny petals ready for the reception of its admirers, the bees. It is very hardy and thrives on most any kind of soil, not objecting in the least, apparently, to the rocks, just so there is enough soil for it to get a foot-hold. It clings tenaciously to life. There are many acres of it in and around our picturesque little

village. It is considered by some a great nuisance, but to me it has a charm peculiarly its own. In 1888 it gave me a ton of honey, which may in part at least account for our friendship. It is not killed by our winter's cold, and looks as though it might be preparing itself for another ton of honey in 1891. Hoarhound continues in bloom for a considerable time, depending, of course, upon the season as to the length of duration.

By the first of April the red daisy begins to bloom and continues for two months. There is not a great deal of this plant in or right close to town, yet there is an abundance of it within two miles, and my bees have gathered quite a lot of honey from this source in the last few years. It is dark, very thick and unusually heavy bodied. Personally, I do not fancy the flavor, yet, many prefer it to other kinds. One of Prof. A. J. Cook's students, (Prof. F. A. Gulley), sampled it together with a half dozen other varieties that I had at the National Horticultural Association, at Austin, last February, and pronounced it the finest honey he had ever eaten in Texas. So much for taste.

About the first of May, (sometimes, of course, a little earlier and sometimes a little later, owing to the season) our famous horse-mint begins to bloom and continues for a period of about six weeks. It is one of the best honey producing plants that we have. It varies in height from eight inches to three feet, owing to the fertility of the soil and amount of rain we have. It yields honey more freely when rain is plentiful. It seems to have no special choice of location, but abounds upon

the hills, in the valleys, on rough rocky land, in the rich alluvial soils, on the road sides and in our very door yards. Our prairies are a waving mass of beautiful flowers, when it is as abundant as in 1888.

The horse-mint is very light in color, of good body and the best flavor of any honey I ever tasted. The plants look quite promising for a fine crop in 1891. It, like the hoarhound, is not hurt by the winter's cold.

Shumac is abundant near town and blooms about the middle of August. Then comes in our fall flowers, of which there are quite a number. Wild sage is plentiful some seasons, but I do not think that it yields much honey. Bees work very freely upon ice-weed, which is quite plentiful near the creek and also in fence rows, especially near rock fences. Upland or red elm usually blooms about the middle of September, and yields both honey and pollen freely for a few hours early in the morning. There are a number of them in my yard, and almost before good daylight I can hear the bees roaring, and there seems to be a full swarm upon each tree gathering the precious nectar that is soon evaporated if not gathered immediately. By 10 a. m. all is quiet about the elms until the next morning. The broom-weed is another plant that is very abundant and sometimes yields considerable honey, which is dark, very thick and hard to extract. It has a rosin smell and taste, and is, when first extracted, (if it is pure), inclined to be ropy. The rosin taste and also the ropy quality, will to a great extent disappear after it granulates, especially if much of the sur-

face is exposed to the atmosphere by putting it into shallow, open-topped vessels. This I find greatly improves honey that has any objectionable taste. The vessels, of course, should be kept covered with cheese cloth to keep out dust. They should also be kept in a very dry room. This broom-weed honey possesses fine medicinal qualities, especially for throat and lung trouble.

There are other honey producing plants, shrubs and trees here, but the ones mentioned above are the most prominent and plentiful.

Salado, Bell Co., Tex.

Drawing Out Comb Foundation.

BY R. F. HOLTERMAN.

I have yet to see the man who, consistently, for any length of time, sticks to the statement that good worker comb can, without fail, be secured by using only a starter or part of a sheet in the frames. The bees will commence to build drone comb just as quickly as the first eggs that have been deposited in the combs produce young bees, or if the frame is put in an old colony, as quickly as they commence to want to swarm and build comb thereafter. Of course, every allowance must be made for the age of the queen, the disposition of the bees and the honey flow. A young queen is less liable to lay drone eggs, and, of course, if there is no honey flow the bees will not be likely to build drone or any other kind of comb.

I always use full sheets of foundation, and in order to get the best comb, follow the method given below. When a colony is strong enough for an upper story I take from the lower combs

(generally two) heavy brood, capped, and near the time of maturity. This I put above, and below I place the frames with foundation in, which the bees should quickly draw out. The advantages are if placed above with full combs they will only draw out this foundation when compelled, through lack of space above, and then, as we all know, the comb is very tender and easily broken in extracting. When the foundation is placed below the bees will build out the comb more quickly, and by brood hatching in them the combs are strengthened and less liable to be broken.

Another system I adopt is, every time I extract I break out two combs, leaving six in the hive. The two broken out are replaced by combs of foundation which the bees can fill whilst storing honey in the remainder. I believe we can get more extracted honey by this system than giving all foundation to some colonies and all comb to others, and the foundation is less liable to be broken down, as the bees will not cluster very much on the foundation until they commence to fasten it. This too can be avoided by putting these frames with foundation closer together, in fact, quite close, only they must be watched and properly spaced when the bees have commenced to draw out the comb.

Brantford, Ont.

Would it not be a good idea to raise some choice queens this year for our own use? The rearing of queen bees is one of the most fascinating occupations in the world, and it pays well, too. Weed out the scrub stock continually.

Seasonable Sayings.

BY DR. C. C. MILLER.

I don't know whether I'll gain or loose by having the AMERICAN BEE-KEEPER restricted in large measure to the wants of beginners, but I think on the whole I'll gain, for there are always plenty of things to learn about in the elements in bee-keeping, no matter how many years one has been in the business.

SAVING WAX.

I want to emphasize what Mrs. Harrison says on page 66, and to add that a good deal more wax is likely to be saved if some place is constantly ready to receive it and take care of it. Since I have a sun wax extractor, it seems so much easier to save small quantities of wax. All you have to do is to lift up the lid, throw in the bits of waste comb, and after one day's hot sun on it, the beautiful clean wax is found in the dish beneath. The main thing that troubled me at first was to clean off the debris left on the perforated tin. It was almost impossible to scrape it off, or cut it off, till I learned that it must not be done early in the morning or late in the evening, but some time in the day when the sun had made it hot and then it was a very easy matter to scrape it off with the sharp edge of a shingle. When you get your wax extractor in good running order, just try some morning putting in some eggs without breaking the shells, and see how nicely they will be cooked for dinner.

OPEN AIR FEEDING.

Like Mrs. Harrison, I formerly fed a great many pounds of sugar syrup in the open air. It is very convenient to be able to fill up the dishes as

fast as they empty them, with no fear of robbing, and besides the bees like to fly out when they are feeding, so it is more like getting stores from the field. But if there are other bees in flight you must feed them as well as your own. I know that bee-keepers are a very liberal lot, and some of them have said to me that they did not begrudge the feed taken by the neighbors' bees. Well, I am not so liberal. When I feed six or eight barrels of sugar, I don't want my neighbors' bees to get half of it, any more than I would want to give to those same neighbors two or three barrels of sugar. And no matter how small the quantity, I don't see why I should feed my neighbors' bees any more than their pigs.

Another trouble is that the feed is not rightly distributed among my own bees, even if there were no outside bees. The strong colonies, perhaps already well supplied with stores, get the lion's share of the feed, while the weak and almost starving ones get comparatively little. This decided me to give up open air feeding, for the proportion taken by the bees of others was so small in my case, that it was not worth considering, provided there were sufficient advantages otherwise.

By feeding in the hives, you can give each colony just what you think it needs, and if you feed on top, so that no bee can get at the feed without going through the colony, and are careful not to do any daubing or otherwise excite robbers, you are not likely to have any trouble.

Mrs. Harrison says, "It is poor economy to feed bees when they can gather sufficient for their daily wants."

I suppose she means feeding a little every day, and I think it is worse than useless. But even if there is enough yielding for their daily wants, I should feed, if I knew a colony had not enough extra stores ahead to last it through a week or two of bad weather in which they could gather nothing. I have known a time when some colonies were gathering a surplus and others that were short of stores were not getting enough for their daily wants, and it seemed to me that their being so short of stores has something to do with their being in such feeble condition that they could not do much in the field. Then I want to be sure that the strongest as well as the weakest have a stock ahead, for I think a colony with a well filled larder is in better heart to raise a big lot of brood, than if they have only what they gather each day. It's a good deal safer, too, to have a stock ahead, for sometimes there comes a dearth at an unusual time. One year, I was surprised in June to see the skins of brood thrown out in front of some of my hives. I hardly knew what to make of it. I had never known anything like starving at that time of year, but investigation showed that I had just that very thing. Not only were a few affected, but nearly every colony was so short that all young brood was destroyed, and two or three colonies actually died of starvation. Of course they were then fed, but the loss of that brood at that particular time could not be made good by any subsequent feeding. In spite of such loss, I had a fair crop afterward, but I am satisfied that if I had fed 300 pounds of sugar the first

of June, I might of had 3,000 pounds more of honey.

So I would urge upon all beginners to look occasionally to see that every colony has some stores ahead, for when no stores are coming in, the large amount of brood reared will use up in an astonishingly short time all the surplus on hand.

WEAK COLONIES.

Don't make the mistake of taking brood from the stronger colonies to build up the weaker. I'd rather do the other way. A colony covering six frames of brood will build up more than twice as fast as one covering three frames. A little weakling is of scarcely any value except for the queen that's in it, and more than once I have experienced a feeling of relief to find such a weakling had deserted its hive.

Marengo, Ill.

Some writers maintain that bees will go from three to four miles in search of nectar and store a large quantity of surplus. I have found hundreds of colonies in the woods, and but very few of them were lined the distance of a mile. At this distance the line would lead through open fields and brush lots. During the past two seasons my apiary has consisted of 19 colonies of Italians. When at work in the fields, traveling the highway, picking wild berries on the mountain where golden-rod, aster, pinks, old field balsam, etc., grew in profusion, I kept strict watch and not an Italian bee was seen at the distance of one and one-fourth miles from the apiary. One mile seemed to be about the limit of their search, and but very few were observed at this distance.---Erdina.

Can Our Bees Be Improved ?

BY HENRY ALLEY.

This is a problem that our practical bee-keeper is constantly at work upon. Various ways and methods have been suggested for accomplishing this most desirable result, but none seem to be practical, or to meet the approval of our "scientific" bee master.

The effects of inbreeding as the most fruitful cause of degeneration of our apiaries was long since decided and proclaimed. All practical bee-keepers admit that cross-breeding is the only safeguard against the almost total destruction of our apiaries or certainly the honey qualities of our bees.

While cross breeding seems to keep our colonies up in a fairly prosperous condition, there is not that improvement in the working qualities of our bees so much desired by all, especially by those who make bee culture a business. Now what the bee-keeper of the present day needs is a larger, more active and stronger bee, one that will fly twice as far from the hive as our small bees, and a bee that will return from the fields with double the honey or nectar that the common brown bee takes home.

Then, again, we want bees with "tongues" so long that they can sip the nectar from the blossoms of the first crop red clover, bees that possess a gentle disposition, as well as many other points that might be mentioned here. How are we to attain these much desired features seems to be the problem. The following method has been practiced for many years in the Bay State apiary. If there are fifty or more colonies in an apiary and but half of these colonies are good honey gatherers, what is the practical thing

to do? Why, propagate from the best colonies, that is, rear queens from them and weed out and replace with good queens every worthless one in the apiary. That is the proper thing to do in all cases.

The practical, (perhaps I should say the scientific), bee-keeper knows it is the drone bee that transmits to its offspring the good or bad qualities of its peculiar strain, breeders of *golden* queens look to the male bee for high color and size of the queens he is rearing, and also to the father for the working and other qualities of his bees. While the mother bee must be of the best and most beautiful, the drone bee must also be handsomely marked, and perfect as well in all other points.

The colony in which the drones are reared should be the best in the apiary, great workers in the field and possess good wintering qualities, and in fact possess all features that make a perfect colony of bees. Drones from such a colony are the ones to use in fertilizing our queens if improvement is wanted.

Right here comes another point that puzzles many bee-keepers. How can an apiary be managed so that our queens can be mated to the drones of our choice? It can be done and with but little trouble, too.

Pardon me if I mention the drone-trap. It is not generally known that there is perforated metal in use that will let a queen and worker pass, but not a drone. Well, now what is needed is traps provided with metal of this description for each hive that contains drones that are not up to the standard, while the colonies having desirable drones should have an unobstructed entrance. This will do the business in all apiaries where new queens are not introduced. Does any one see anything impractical in this? It is no theory. It is practical and will work successfully in a small, as well as in a large apiary.

Wenham, Mass.



W. T. FALCONER MFG Co., Gentlemen: Enclosed please find renewal of my subscription to the AMERICAN BEE KEEPER. Will you please answer the following questions:

Is pleurisy or butterfly weed a good honey plant?

If so, where can I get the seed?

Is sweet apple cider healthy for bees and what do they store from it?

Please tell me all you know about artificial bee pasturage.

Yours truly,

ISAAC SHEETZ.

Calvary, Va., July 10, 1891.

FRIEND SHEETZ: We have referred your letter to Prof. Cook, and the following is his reply: "Pleurisy or butterfly weed, *asclepias tuberosa*, like all the milk weeds, is a very excellent honey plant. Anyone can get seeds, wherever the plant grows, and they are widely distributed. Some of the milk weeds capture bees by means of the sticky pollen masses, and often load the bees up with the same, but on the whole, they are valuable.

It has been generally considered that cider is bad for bees. Cider contains some sugar; whether it is as injurious as some consider, may be a question. I have known bees to gather cider freely, and winter well. Like Dr. Miller, I will say, "I do not know," but I fear the drowning and annoyance which bees cause about a cider mill, more than any injury that the bees receive.

The matter of artificial bee pasturage is, as yet, of doubtful utility. We are thoroughly testing the matter at this station.

Bee-keepers may well encourage the planting of basswoods along the road sides, and the raising by farmers of alsike and buckwheat and perhaps rape, but as to planting solely for bees, that is a questionable proceeding. It may pay to scatter sweet clover, rocky mountain bee plant, viper's bugloss, etc., in waste places, but nothing more should be tried until our stations prove that it will pay. I fear they can never prove that.

W. T. FALCONER MFG Co., Gentlemen: My apiarian fixtures came to hand in good shape and everything gives good satisfaction. The section boxes are all on and many of them partly filled; my bees are booming.

The smoker is first class. After using it for nearly one hour I set it down to eat supper and when I came out again a steady stream of smoke was still issuing from it, and it is the first one that I could burn wood in. I use maple wood 5 in. long, $\frac{1}{2}$ in. square, well dried in the oven.

The five bar veil can't be beat, and with the smoker in hand and the veil over my face the bees never bother me. I send you another little order which you will please ship as soon as possible. Yours fraternally,

H. T. JONES.

Renova, Pa., July 9, 1891.

[The smoker Mr. Jones refers to is a Bingham.—ED.]

Numerous buckwheat fields in the vicinity of an apiary often turn the scale between profit and loss.

EDITOR AM BEE-KEEPER, Dear Sir: Inclosed please find pay for your paper. It has come asking me to subscribe. It is well printed on good paper, neat in appearance, full of instruction and far ahead of the *Advance* (its predecessor) and the price is only a trifle. We that keep bees ought to be willing to support our friends and institutions. Last year was a poor one in northern Iowa for bees, as they were hardly able to support themselves, but it looks now as if this year would make up for the loss.

Some have said that it does not pay to publish a bee paper as there are so many, but bee-keepers increase, the business enlarges, and why not help the children. The old have been helped and will soon pass away, and let us not be partial but give the young ones a chance that are coming up to fill their places. We do not wish to lay aside the weekly paper that has kept us posted so long, nor will we go without *Gleanings*, as there is where we exchange views about bees and religion, having a sermon twice a month to bring us a knowledge of the truth that secures us a home after we are through keeping bees.

Four years ago I started alone with 30 colonies of bees and was entirely ignorant of how to keep them. My son gave me the bees saying I could have them to earn money for myself if I could save them. I had not realized that I needed a paper much, as John Bird, a pioneer bee-keeper of this county, lived about one-half mile away and I used to inquire of him, but finally concluded that it was not right to bother him so much, besides

I found it hard to travel back and forth so much and so I subscribed for a paper. I kept the bees two years saving \$300.00, raising all extracted honey and doing all the work myself, although I was a broken down woman 55 years old. I increased to 50 colonies and Mr. Bird told me I was the only woman in the world that could have done as well. This greatly encouraged me as I knew he was a man competent to judge. I think a lack of encouragement while my son kept the bees was one of the causes why he left them, as I had esteemed it a very ordinary business and had been disappointed that he had chosen such a poor vocation, when I had educated him for a teacher or some literary profession.

A year ago this season was a very good year to build up; my son came home and raised queens and we multiplied the bees for the honey harvest and in doing so had to feed a thousand pounds of honey. The honey harvest was very light so that we had no honey to sell, and my son went to Wisconsin to work at printing leaving many nucleus colonies to build up on the Fall honey. But the Fall flow was also short, and while \$100 worth of sugar would have saved all my bees, I did not feel able to spend so much and run the risk of another poor year, so fifteen of the colonies died last winter leaving but thirty-five now, which are doing well.

The honey is coming in freely and I am working for comb honey mostly now. My son has not returned but has gone to keeping bees away, and I will have to learn the business more perfectly, and these new papers are

coming in very handy. Having had La Grippe this spring am not able to do much but read and write. We read that "All things work together for good to those that love God." Then let us seek first the kingdom of Heaven and its righteousness that all things may be added to us. Not that we may be millionaires in this world but the world to come.

MRS. F. A. DAYTON.

Bradford, Ia., July 10, 1891.

W. T. FALCONER MFG Co, Dear Sir: I may at times have found some fault with you but I believe I never will again. I made a trade with a man for 15 of ——'s dovetailed hives and I have been putting them up. They are the worst lot of hives I ever saw. Now I want some good ones.

Ship me * * * * * Ten of the hives are for a customer, so please mark those, and pack the rest of the things with the other five for me. Please send as soon as possible as people will wait till the last minute about giving me their orders.

Yours truly,

W. H. OSBORNE.

Chardon, O., June 5th, 1891.

[The dovetailed hives referred to were from a leading manufacturer. We refrain mentioning names as it would only injure his sales and not materially help us, besides, we do not wish to prosper at a brother manufacturer's expense.—Ed.]

Arrange the apiary in nice straight rows, or some of the more fancy figures. Don't allow a lot of empty hives, cases and other traps to be scattered around. It looks bad and isn't business.



BEWARE OF TOO MANY SWARMS.

Nearly every person who starts in the bee business is anxious for many new swarms during the swarming season. This desire is a serious mistake and sooner or later the apiary contains nothing but small colonies that easily perish when adversity comes. An acquaintance who has kept bees for forty years is an admirer of the swarming instinct. His bees divide and subdivide until their strength is all spent in swarming. Instead of storing surplus what they get goes into the brood chamber. They just about hold their own and gather honey enough for winter stores if the seasons are fairly good. When a poor season comes they perish by the wholesale. The hives are then piled up with combs left in, which gives the moths a fine chance to fill, not only the hives but the vicinity for miles around with their offspring. When the swarming season comes the owner begins the same round over again, by hiving swarms in these pest boxes. He never gets surplus enough to pay for hiving the bees, to say nothing about the other expenses. My greatest trouble is the prevention of increase, though I have succeeded admirably the past two seasons. If I was absolutely certain that in the future my bees would cast no swarms I would start in the business with renewed zeal, calculating to succeed with one-half the head-work I have used in the past. The best advice an old stager can give a beginner is to beware of keeping too many colonies. —*Farm and Home.*

THE LOCAL MARKET FOR HONEY.

When I first started in the honey business years ago I sold my goods wherever I could. The bulk of my crop was usually disposed of to customers on the road to the village some miles away where I trade. That not sold on the way was sold, if possible, in the village. This plan was unsatisfactory, for quite frequently my customers were away, though more often were at home without the ready cash. Grocers who bought of me were displeased when I sold to their customers and would not buy of me unless I would consider their interests. Last season I quit retailing entirely, put my honey up in good shape and my price up to correspond. I used shipping cases holding 24 and 48 sections each, and sold by section instead of by weight, at every grocery that would take a crate. Part payment was taken in trade and I waited until the season was over for the money. My crop was all off hands in October, yet I did not press my customers for settlement until nearly spring. Last season I explained to them that the crop was to be a poor one and asked one cent more per section than before and it was willingly promised. Thus all was engaged at a good price before a section was ready for market. It was not necessary for me to go with each lot to make sales. I could send by my neighbors and curtail expenses. My honey was all in the market by Oct. 15. Very little cash was received on it and none was asked for until Jan. 1. By giving a few months' time there is no trouble to sell. The increase in price makes up for the loss of the use of the money and repays me tenfold.—*Apiarist*.

MANAGEMENT FOR AUGUST.

There are sections in which no honey is gathered this month. Still other sections will have its largest yield from now until frost. Take the State of New Jersey—the largest part of the bee-keepers there depend wholly on the fall flow. As to our section we look for flow enough in the fore part of the month to keep up breeding, and in the latter part the golden rod and asters commence and we get just as much, if not more, from them than we do from the spring flowers—and have only to say, if honey is plentiful, continue the same treatment as prescribed for July. Keep each hive supplied with boxes; continue extracting and get frames of foundation nicely drawn out for the fall flow, especially if you are in a section where there are quantities of buckwheat raised, and take the sealed combs away and keep for wintering. August is a splendid time for Italianizing if you have reared queens for the purpose, or if you intend to purchase queens, and one very good reason is that queens are cheaper at this season than earlier, or even later. The stocks are not disturbed by introducing new blood and they go into winter quarters with young queens and just right to turn out good Italian workers for next season. Have as much brood reared this month as you possibly can, even if you have to feed; hives strong with young bees in the fall winter much better and have more strength and vigor the next spring. I think I can safely say that a stock of young bees in the fall will be worth two stocks of old bees in the spring; they gather honey faster, work harder and thus their queen is stimulated and commences to lay earlier than those who

were worn out when they went into quarters. There is a fair chance of a honey drought in some part of this month. In this I may be mistaken, but we generally get it, and I always look and prepare for it. However, what I intended to say was, should the bees cease to find honey in the fields they are apt to be very much harder to handle, and they rob each other like perfect little sinners. I might add that should they commence robbing it is more difficult to prevent them than at any other season of the year. Hence I say when you open a hive always smoke it well before opening, and I would say puff a few whiffs in the entrance of hives standing near the one to be manipulated, as this has a tendency to keep them at home and mind their own business. Keep all stocks strong. If you have any weak one help it along by giving it a frame of brood from some stock that is able to stand it. Keep the entrances partly closed to prevent robbing. Leave no broken bits of comb, or sweets of any kind, exposed.

If box honey is placed in a cool dry cellar, setting one or two inches apart so as to allow a free circulation of air around them, there will be very little danger of hatching worms. Still they should always be fumigated before sending to market, for some of our bee-keepers have had very sad experiences who failed to do it. There is no telling how the worms get into box honey that has not been in a hive for weeks or even months, and they have been all sealed and glassed ever since taken from the hive. No, there is no telling how, but I am "just chuck full" of theory as to the causes, and I think there is no question but that the

moth has been all through the hive from which the boxes were taken, and has laid her eggs in these boxes. How the worms evade the bees is another thing I cannot say—but for all that they do—and should the weather be very warm these eggs will hatch and become moths, and after standing in the store awhile will not only be unsightly, but unsalable and cast aside as "wormy honey." In order to fumigate honey sections I would say, take them into a room that can be tightly closed and arrange them on strips of wood about the width of a lath but thicker, resting the corners of the boxes on two strips and thus spread them all out; they can be built up as high as you like or the quantity of boxes demand, all you want is free circulation. Then place an old iron kettle on a few bricks placed on the floor under the sections; in the kettle throw a shovel full of live coals, on the coals throw about one pound of sulphur, then leave and close the door tightly. This will kill all worms—cannot say whether it would destroy the eggs or not, but I doubt it—therefore I would advise you to fumigate them at least three times before sending to market, at an interval of every two weeks. I would say, as a mild suggestion to the beginner, if you have Italian bees there is little danger of the bee-moth, as they seem to protect themselves from them very thoroughly, and as far as I am concerned I have no fear of the bee-moth—in fact hardly consider it the plague some of our writers would have us believe. But to be on the safe side fumigate comb honey as described, for you may have had a weak stock, or if a black stock, there is sure to be moth-worms—for we find three black stocks to one Italian troubled with the moth-worm.

W. B. T.

The Punic Bee.

BY E. L. PRATT.

Many will be taken by surprise to learn that a new bee has been found that excels anything ever predicted, in the coming "American wonder."

The name of this bee is, the Punic bee—*Apis Niger*; 'tis shiny black in color, and is smaller than our native black bees, or Italians. There are no bands or marks of any kind on it, young bees are the color of green ebony, shading off to true raw ebony when beginning to field, and finishing off to polished ebony when old and all hairs are worn off them.

They are the tamest bees known—the only time when it is possible to get them to sting, being when they have the swarming fever on.

They are the hardest bees known. They can fly from and to their hives with safety, with snow on the ground and two degrees of frost.

The queens are very prolific, and are easily found among the bees. The young queens are the most lively I ever handled, and I found that I would be obliged to quicken my motions in introducing them to fertilizing hives. They cluster well on their combs, spread evenly over them, and shake off readily.

To sum up, we have a bee, docile, hard-working, prolific, non-robbing, and best for comb honey. They have many other good points, that are more in favor of the queen breeder, horticulturist, etc., than the honey producer; this being the party to appreciate the bee that does not sting, and will build up from 1 to 20, and possibly yield 1,000 lbs. of surplus honey.

They also have the following characteristics: if a pure blooded queen

mates with a drone of any other race, her bees are a blend of the two races; and though better than the race mated to, are not quite so good as pure. If a pure Punic drone mates with a queen of any other race, the resulting bees almost equal pure Punics for honey gathering, and in other respects the cross is very marked.

They can eat the hardest and driest sugar; in fact they will carry away the hardest and driest sugar loaf (when no honey is to be got.)

These bees are very difficult to obtain, and the price, (\$80.00 each,) will not be surprising when I say that they have to be carried in their traveling boxes on the heads of Negro natives and the backs of camels across the great desert of Sahara.

After the middle of March it is too hot to transport them to the coast in safety. Their natural swarming months are December, January and February. So you see the ones in my yard are awakening to a new spring.

Although these bees are smaller and different in habits from ordinary bees, they can be introduced and worked with all the appliances of modern apiculture. The fact that they are such a wonderful race of bees will give them a strong foothold among the beekeepers of America.

Beverly, Mass., July 21, 1891.

Alsike clover is coming to the front as a honey plant. It seems to be much hardier than either white or red clover. I have noticed it growing in dry, compact, sterile soil by the roadside. Also in a roadside ditch, where water was running one-fourth of the time during the year.—J. H. A.

The American Bee-Keeper,

PUBLISHED MONTHLY BY
THE W. T. FALCONER MANFG CO.

TERMS:

50 cents a year in advance; 2 copies, 85 cents; 3 copies, \$1.20; all to be sent to one postoffice. Postage prepaid in the U S and Canada: 10 cents extra to all countries in the postal union and 20 cents extra to all other countries.

ADVERTISING RATES:

15 cents per line, 9 words: \$2.00 per inch. 5 per cent. discount for 2 insertions; 7 per cent. for 3 insertions; 10 per cent. for 6 insertions; 20 per cent. for 12 insertions.

Advertisements must be received on or before the 20th of each month to insure insertion in month following. Address,

THE AMERICAN BEE-KEEPER,

FALCONER, N. Y.

Subscribers finding this paragraph marked with a blue cross will know that their subscription expires with this number. We hope that you will not delay in sending a renewal.

A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

This is indeed a large country and it seems to be impossible for nature to bless all parts of it simultaneously. Not only is this noticable in fruits and grains, but in the honey crop as well, for all in the same mail comes the most encouraging reports from one section, while from another section we hear, "The honey crop is a failure."

Friend Alley devotes considerable space in the July *Apiculturist* to the *Missouri Bee-Keeper* in response to the unfriendly and uncalled for charges which that journal made against Mr. Alley in its June number. As stated previously we do not approve of such personalities appearing in any journal, but we really think Mr. Alley is justified in returning the attack on his integrity and good name.

Speaking about bee escapes, we note that the Porter is having a great amount of free advertising in the

different bee journals, while the Dibbern is receiving many "black eyes." Friend Dibbern devotes almost his entire space in the *Western Plowman*, of which he is "bee editor," to defending his escape.

Doubtless our readers will notice the *White Mountain Apiarist* ad., offering a cash premium to the person suggesting the best method of,— but you can read the particulars in the advertisement. You will find it no easy matter to suggest a good idea. Ideas in that direction are scarce, but editor Ellindwood's idea of advertising this way is far superior and more honorable than the worn out "chestnut" of offering a grand prize to the first ten persons sending 10c and guessing the number of letters in the word pig or some such nonsense, the only object being to get your 10 cents. No matter how many dimes are sent it only costs the advertiser \$1. This seems to us downright dishonesty.

The *Missouri Bee-Keeper* is improving, but still it continues to deal liberally in personalities, and the AMERICAN BEE-KEEPER came in for a share of its wrath last month. It is hardly worth while for us to notice the several shots made at us in one way and another in the several different articles concerning us. Such things do not interest our readers, but we will say that we do not deal in queens or bees, consequently have no axe to grind, and our conclusions concerning Carniolan bees were our honest convictions. After a more thorough examination of the subject we are compelled to state that we can find no reason for changing our convictions. We are not defending yellow Carnio-

lans through any friendship for Henry Alley or E. L. Pratt or anyone else, nor for fear of losing their advertising patronage, as the editor of the *Missouri Bee-Keeper* insinuates, for the advertisements of the gray bees in the BEE-KEEPER occupy much more space than do Messrs Alley and Pratt, but we believe in fair play and do not condemn a person or thing simply because of a difference of opinion. The whole gist of this Carniolan matter is this: There are found in Carniola both the gray and yellow race of bees. The gray are found in the more elevated portions, while the yellow are found in the valleys. There are hundreds of bee-keepers throughout this country who have and highly recommend the so-called yellow Carniolans, while there are also numerous bee-keepers who sing the praises of the gray race. Each have their admirers, but as the gray Carniolans are more widely known their admirers are in the majority. It seems to us somewhat narrow minded in anyone, considering the meagre knowledge we have of the origin of the Carniolan race of bees, to assert positively that either is genuine and the other is spurious. Candidly, as we have before stated, we do not feel sure that either variety is pure blooded, and we are not alone in our doubts.

Our readers will notice in the market reports that the price of beeswax has declined considerably, and is still going downward. There are several causes for this. Bee-keepers throughout the country are sending their wax into the market and there are large quantities of foreign wax arriving. Russia, who has until recently been

buying large quantities, has now supplied her wants, and the many manufacturers of fdn. throughout the country are not now using any beeswax. We believe that it has touched the highest price some time ago and we look for a continual decline until towards spring, consequently we think it advisable for all who have any wax to sell, to dispose of it soon as it will not pay to hold it over until next season, even should prices then be advanced. We have several tons for which we have paid from 27c to 30c per pound, and by spring, with interest added, it will have cost us at least 1c a pound more, to say nothing of the cost of insurance on it. We therefore do not care to purchase any more wax at present, but to accommodate our friends will of course accept at the market price any small lots they may wish to send us.

The ten yellow Carniolan queens which, in his article in July BEE-KEEPER, Mr. Alley offered to give away to the first ten responsible bee-keepers who applied for them, were awarded to the following: M. D. Gotham, Brownville, N. Y., F. A. Salisbury, Syracuse, N. Y., Geo. M. Blanchard, Ashby, Mass. J. S. Yeatman, Singer, Va., A. G. Baldwin, DeKalb, Ill., W. F. Marks, Chapinville, N. Y., J. G. Sanburn, Cornish, Maine. A. J. Gray, Burchton, N. Y., J. A. Roe, Union City, Ind., E. B. Jenks, Upper Lisle, N. Y.

There is considerable unsteadiness in the ranks of bee journalism. At this writing the *C. B. J.* is seven days behind hand. The *White Mountain Aparist* is eight days; *Missouri Bee-Keeper* twenty days; the *Review* twelve days; *California Bee-Keeper* has not shown up at all for July, and the *Intermountain Horticulturist* has changed from monthly to quarterly. The *A. B. J.* and *Gleanings* are on time with the regularity of clock work, and the *American Apiculturist* is

seldom more than a day or two late. The *Bee World* skipped June entirely but comes with a brighter and neater appearance for July. By the way, friend Vandruff intends to do the type work on the *World* himself hereafter. A new paper hails from Bryan, Texas, which is called the *Busy Bee*; has four pages and plenty of room for improvement. Speaking of the promptness of the *A. B. J.* and *Gleanings* reminds us that the BEE-KEEPER has not been more than one day late any month since it began publication.

We shall hereafter refuse to accept any patent medicine ads. whatever. We have long been averse to doing so, as in nine cases out of every ten the medicines advertised are but vile nostrums with but little, if any, curative properties. In fact, in many cases they are a positive detriment to the health of the person who takes them. We have never accepted but one of this class of advertisements, that of a certain 'catarrh cure,' and then only because the venders thereof were most urgent in their request for us to do so, but it will appear no more in these columns. By throwing it out we loose the space for all previous insertions, as the advertisers thereof refuse to make payment for same. But we do not weigh this for an instant. We know of a party who has given the medicine a thorough trial, using several bottles, and receiving not an "ounce of cure." We are surprised to see so many bee papers whose editors write in such a highly moral tone, yet accept some of the most indecent and deceiving advertisements of quack medicines that are inflicted on a suffering public.

SUCCESSFUL ADVERTISING.

To be a successful advertiser requires as great sagacity and business ability as it does to be a successful merchant or manufacturer. In fact, the successful business man is almost invariably a wise advertiser. Of course, there are many ways in which one can advertise, but the mediums most universally preferred are the newspaper and magazine. A great many people send an ad. to a paper for one insertion and expect enough returns from it to keep them busy

for the balance of the season and when but two or three or possibly a dozen inquiries come in, they are disappointed and conclude that advertising does not pay. If every ad. would net the advertiser a profit, it does not take a very intelligent mind to comprehend that there, and there only, is the sure road to success, but experience proves that the small and timid advertiser is not a successful one. To make a success of advertising you must "keep everlastingly at it." We frequently have persons send us a small ad. to occupy from three lines to an inch of space, and after it has appeared once or twice we get a letter from them saying "take it out," we "don't think it pays very well." On the other hand, almost every one of our large advertisers have told us that their ads. in the BEE-KEEPER paid them splendidly. There is another noticeable mistake made by many advertisers, in that they advertise too late. They wait until the season for selling their goods is fully here and then they advertise and are disappointed at the result. In the *July Review* we are credited by Rambler with saying, "We are greatly astonished at the folly exhibited by some of the manufacturers and dealers in apiarian goods, in that they advertise only during the selling time of the year." Let us reiterate that remark. Our experience shows that of all the months in the year when it is the least beneficial to advertise April, May and June, (the best selling months,) are the least. We are without doubt by far the largest advertisers in our line in the world, and we find first, that it pays best to advertise *all* the time, and secondly, that the best results are obtained by advertising from three to six months before the class of goods advertised will be in demand. Contrary to what might be supposed, we are receiving at present more inquiries for catalogues and price lists than for several weeks past. In fact, during the present week we have received more inquiries than in any week since March.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

	PUB. PRICE.	BOTH.
American Bee Journal,	(\$1 00)	\$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(75)	1 15
Gleanings in Bee Culture,	(1 00)	1 35



PUBLISHED MONTHLY BY THE W. T. FALCONER MANFG CO

VOL. I.

SEPTEMBER, 1891

NO. 9.

How can we Elevate the Standard of our Bees?

BY E. L. PRATT.

Almost every bee-keeper knows there are always one or two colonies in his yard which lead all the others in many ways. For instance: here is a stock that has stood the test for two years. They winter well, build up early and are ready for the boxes by the opening of the white clover every time, and when the boxes are put in they are not slow about occupying them. They work early and late and generally fill from two to three cases from clover and basswood. Nearly all the good traits of our bees are transmitted through the drone. Therefore no drone should be allowed to fly excepting those from such a colony as the one above described. In the spring (or the fall previous) select the colonies that have given the best results and supply them with a good number of drone cells near the entrance of the brood chamber, so as to have drones on the fly as early as possible. If there are more than two colonies giving good results supply them also with drone comb on the outside of the brood nest for a batch of good drones later on in the season. It is

well to remove all cells of the drone size from the other colonies as far as possible, so as to avoid the production of worthless drones. As soon as swarming commences adjust drone traps to all hives excepting those selected for drone rearing. The zinc used in these traps should have perforations of a size to allow young queens to pass through but hold back all the inferior drones. Allow the swarming colonies to construct their own cells in the ordinary way, and when the young queens fly out to mate there will be no other drones in the air excepting those selected, and a decided cross with a select stock is the result.

This is one point gained, and after following up the practice a few seasons a very marked improvement in the capabilities of the bees will be readily noticed. If an extra good colony casts a swarm be sure and save all their good cells, and supercede inferior queens wherever found. It is a good plan to purchase at least one young queen from some reliable breeder each season, not to rear queens from, but to select drones for another season. Color can be infused in this way. By constantly selecting in this manner the standard of the bees is gradually

elevated, and if continued season after season there will be no need of so much feeding for winter stores.

It might be well to add that the large-sized zinc used in the traps above does not in the least hinder workers from going and coming freely. When traps are made queen excluding and used with our double entrance arrangement they work like a charm, even better than the single open long passage way. The double entrance plan is a combination of the queen excluding honey board and a trap, which I have previously explained.

Beverly, Mass.

Progressive Bee Culture.

BY C. J. ROBINSON.

It transpires that now one man can care for several yards on the new system as easily as he could one in the old. Horace Greeley, when importuned to keep bees, replied, "I have not the requisite experience to manage them; have tried to keep them and lost all." He lacked the knowledge necessary to make bee-keeping a success. Had he possessed the practical knowledge of the man who urged him and taken as much pains to make it known as he has of what he knew of farming, he might have added millions of dollars to the wealth of our state annually. In proof of our progression in bee culture, allow me to compare results of the new principal with that not so far advanced.

At the American Bee-Keeper's convention, in 1871, in Cincinnati, there were present 120 bee-keepers who owned 5,651 stocks of bees, and had sold from them 83,065 lbs. of honey. We learn by this comparison that 300 hives produce now over $\frac{1}{4}$ as much as

5,000 did then. A little calculation shows that 5,000 colonies might have produced over four hundred thousand pounds of honey with careful management on our improved system. It is time that all the agricultural colleges had a professor of aparian sciences. If you send a young man to college and educate him and he does not care to use his knowledge in this direction, it will benefit him as much as a thousand other things taught him there and never made available.

Some one inquires: "Is there enough in it to pay? What are a few pounds of honey compared with other and greater interests?" Well, have you ever given this a moment's reflection? Further on I will explain this branch of the subject. I will now give a brief retrospective view of bee-keeping.

My personal knowledge of the business covers a period of more than half a century. My memory of attending to my father's bees extends back to 1830. At that period no progress had been achieved in bee-keeping. Attempts had been made in Europe without practical success, and nothing was known by the rank and file in this country of any bee literature. Until about 1840 nothing concerning bees or bee-keeping appeared in the current literature or books. J. M. Weeks, of Vermont, was the first author of a treatise on bee-keeping. I think a Mr. Wilson put forth a pamphlet in about 1839 caval with the current writings of Mr. Weeks. He invented and patented a hive that, aside from sectional, movable comb hives, is the best of any ever in use. In 1840 Solan Robinson invented a movable section hive called the "book case

hive." It was more practical than the Huber leaf hive, but too complicated and expensive for general use. A few years later Geo. Wheeler patented a second hive and sold "rights" through the country.

Then came the Langstroth hive and that of the lamented Moses Quinby. Prior to 1861 there was no periodical devoted to bee culture published in America. The *American Bee Journal* was the pioneer. It was very ably edited and still maintains the high standard. Prior to the advent of the *A. B. J.* the *Albany Cultivator and Country Gentleman* was the medium for bee correspondence or bee literature. In point of priority Mr. Quinby followed Mr. Weeks and Rev. Langstroth followed Mr. Quinby. The first communication from Mr. Quinby was published in the April issue of the *Cultivator* in 1841, page 76, and it was an inquiry and was responded to by Mr. Weeks which is the prelude to the millennium we are now enjoying. Mr. Quinby continued a valuable correspondence for a long period. Mr. Langstroth did not, according to my recollection, appear as correspondent until several years later. As book authors they made their advent in 1853 and their works were about equal in merit. Mr. Langstroth wrote occasionally for the bee-keeper's press but not to the extent as did Mr. Quinby. In 1852 Mr. Langstroth patented a hive but Mr. Quinby never adapted any of the patented features of the hive. He once wrote "Mr. Langstroth has seen fit to patent some of the devices of his hive but I rather not make use of them." Mr. Quinby devised the hive known as the Quinby

hive, which is considered by expert bee-keepers to be a superior hive. Our western friends who have learned to use the Langstroth hive, not having practical knowledge of the Quinby hive, claim that the latter hive is the most popular of any. They are correct if they speak of localities, but in New York state the case is different. Mr. Quinby was not at all indebted to the genius of Mr. Langstroth in devising the Quinby hive. On the contrary Mr. Langstroth acknowledges that he acted on suggestions drawn from Mr. Quinby in conversation about hives, in which Mr. Quinby remarked that the long flat hive is the same as the tall hive laid down, and that he had a few such hives in which he wintered bees as safely as in the tall hives. This suggestion and information prompted Mr. Langstroth to settle down on a form of hive, the one known as the L. hive.

The inspired idea of a hive formed of several sections, each section containing one card of comb which forms a sectional part of the comb in a hive, and so formed as to be a separate part of the hive, and removable at will, is the invention of blind Frances Huber. Why not give all the honor to whom it is due? Every so-called "removable comb frame hive," of whatever form or name, is nothing more or less, in principle or invention, than the Huber hive. Huber hinged together several comb frame sections to form a line, but he formed hives with the sections by clamping several together on the "long idea" plan of C. L. Adair. The Huber invention dates to about 1796.

In 1834 Maj. W. Augustus was the

first to put sectional parts of a hive inside of a box or case. The sectional parts were the same as the movable comb frames now in use. I am aware that the historical Dr. C. C. Miller records this:—Rev. L. L. Langstroth conceived the idea of surrounding each comb with a frame of wood, entirely detached from the walls of the hive, leaving at all points, except the point support, space enough between the frame and hive for the passage of the bees.—The claim thus set forth is indeed, as the records prove, strangely at variance with facts. A deciple who “don’t know” his master’s will (record) risks much in assuming. Mr. Langstroth has recorded that which overturns Dr. Miller’s history.

(Concluded next month.)

Fertile Workers and What to do with Them.

BY F. H. AND E. H. DEWEY.

In the *C. B. J.* of July 15th appeared an instructive and thorough explanation of fertile workers and the unmistakable signs of their presence. The editor wisely distinguishes between an abnormal laying queen and these unnatural laying workers. Such a laying queen produces “cells capped like the point of a conical bullet.” Again, “if the cappings are rounded like little ant hills all over the combs, instead of being flat or slightly concave, as worker comb is, which gives it a smooth appearance, you may be sure you have fertile worker eggs.” It is explained how a worker in a task out of her natural province deposits eggs with fussy prodigality and in surprising positions. It is truly said, “It is not an unusual occurrence to find from two to ten eggs in a cell, and in bad

cases cells will be found with some fresh eggs found in them, while others will dry up and become dark.” In regard to position, “sometimes they lay fairly well, but in the majority of cases they stick all around the edges of the cells and are scattered indiscriminately all over the bottom.”

The question discussed was simply the detection of fertile workers. The matter of remedy was only touched upon as lying out of the theme. It will not avail to divide the colony for such subdivision will continue the revel of fertility. It seems to be a general dissipation in which any or every bee is engaged. To make the remedy infallible we must remove the root and the cause of the matter. The source of the evil is queenlessness, but let no beginner suppose he can check this unpleasant fertility by introducing the queen. The colony is morbid and more than satisfied with these upstart busy-bodies. They are right to slay any queen, virgin or layer. The case has passed the influence of the first cause, and the immediate introduction of the essential element at once is impossible. We first remove the morbid condition and then repair the queenlessness. The advice generally given is to scatter the bees and combs promiscuously among the colonies, when each weak fractional part falls into the surrounding order of things. This is only a humane way of destroying the colony; the apiary gains nothing by it.

Again, it has been recommended to set the abnormal colony bodily over another of an additional story. It is said that the latter discourages the ambitious layers and generally

clear away the eggs. It may work well, but a bee-keeper, of course, would not select the colony of his best queen with which to try the experiment. However, there is a cure, simple, safe and permanent. It is the caging of the colony in a swarm box. The bees can be pushed into any box, provided with gauze covered ventilating openings, and should be done when few or none are flying. The cover is slipped into place and the bees left for four or five hours in the shade or in the cellar. A cage containing a queen, either a young virgin, old virgin or layer is dropped in, when the universal groan from the box will change to a song. The more matured the queen, however, the better result. A young virgin queen is not very influential in a swarm box. In two hours more or so the swarm can be poured before a hive, preferably a new hive, certainly devoid of all brood, and the queen released so as to enter with the bees. While that queen lives, and she will probably die of old age, the bee-keeper will be relieved of all unnecessary fertility in that swarm.

We would suggest to beginners, however, that the best measure is seasonable re-queening.

Westfield, Mass.

The brood combs in reserve that have the most pollen in them should be the ones first given to the colonies in the spring. These are the ones among which the moths work first and make the most havoc, and the pollen they contain is just what the bees need when new pollen is not plenty or they are prevented from collecting it by long continued storms.

Instructions to Beginners.--- **Management of Bees during September and other Seasonable Hints.**

BY M. H. DE WITT.

During the earlier part of this month the apiarist should go over all his colonies and see that every one has a good laying queen. If any are missing they should be supplied with one at once. Do not defer it as it is very important that they should have one in time to have plenty of brood by the time cold weather begins. The amount of honey each hive contains should be carefully noted and marked on it. The only accurate way to tell how much each hive has, is to weigh several combs containing different amounts of honey and thus get a good idea of the quality contained in the frames. Then take out every frame in the hive at a time and add the amounts together. This will enable you to guess at the quantity contained in each one pretty accurately. Then each colony should be fed sugar syrup to make twenty or twenty-five pounds, made of good coffee A sugar or granulated sugar. To make this, take four pounds sugar and one quart of water and heat it until it just begins to boil. This is all that is necessary, as to the method of feeding, I would recommend to you the simplicity feeder for this purpose, take and fill your feeders at night and sit them on the top of the frames directly over the brood and by the next morning the bees will have the syrup all carried down and stored away. You can obtain these feeders of any supply dealers.

Now as there is no likelihood of getting any more surplus this season, remove all the surplus boxes, crowding the boxes into the lower story. If you have a good queen in each hive and bees to cover eight frames with twenty-five pounds of good honey or sugar syrup there is scarcely any risk in wintering them nicely.

Beginners should remember the following suggestions :

Do not take too much honey from your bees. Remember that it is their surplus you should take and nothing else. Do not kill the cow to get the milk, or the hen to get the egg, when you open a hive of bees. If you see any robber bees flying about you may be sure there is no honey in the fields, and you must avoid leaving the hives open, or exposing honey in their reach. A robber bee is easily recognized by its quick motions and sneaking ways. All bees will become robbers, if tempted with exposed sweets in times of scarcity.

Decrease the size of the entrance of your hives when the honey crop is over, but be sure and have it very large during the honey crop. In seasons of scarcity your bees should be fed. You will have such a season once in ten, and the busy little things will repay you fully the following year. Honey dew and fruit juice are bad winter food, and should be extracted from the combs. When you have to feed, if you cannot get good honey, use good sugar syrup. If bees have to be fed for winter, the food should all be given them before the opening of cold weather.

Sunny Side, Md.

Feeding Bees.

BY MRS. L. HARRISON.

Dr. Miller, I suppose if I should ask you, if the bees ever paid you for that six or eight barrels of sugar that you fed them, you would say, "I don't know." I have never fed bees very much, principally the odds and ends of honey that accumulate in the honey house during the year, and next spring there may be considerable of this year's honey dew to dispose of in this way.

Last spring my partner in the "sweets and stings" said that I had better feed the bees and purchased sugar for that purpose. But I wouldn't do it, and some of the sugar that I didn't make into ginger cakes is in the honey house now. I gave what frames of honey that I had to those needing it and fed three or four more to ease my conscience, for fear that they might starve. I could see neither pleasure or profit in feeding a lot of bees when there was not the least prospect of clover honey, and basswood only lasts a day or two in this locality. I do not regret that I did not feed bees more last spring. If I had done so I might have had more sections of honey-dew than I now have, but I've all I want as it is. The hives are full and running over with bees, and if there comes a fall flow, which I expect, there are plenty of workers to gather it.

I've often wondered why bee-keepers feed so much, but then localities differ. I've been keeping bees since 1872, and to my knowledge I've never known a fall when a good colony of bees did not fill its hive. The rich

overflowed lands of the Illinois river abounds in honey producing plants in the fall, and bees are able to lay in a supply to last them until flowers bloom, and I don't think it pays to extract fall honey and feed back. If I feed bees at all it will be in the fall, with the exception of the odds and ends of honey. Every colony that is to be wintered over should have an abundance of stores to last until flowers bloom.

In removing surplus in the fall I have noticed a great difference in the providence of bees. Italian bees will remove honey from above and store their broodnest full, while blacks do not. I was surprised that I took better filled boxes from the blacks and on looking below saw that they had but little stores, while Italians were full.

As the honey season draws to a close and there are small afterswarms or nuclei with young queens, it is better to remove an old queen from a good colony and introduce the young one. There may be queens that we do not want and these young ones are just what are needed, and their bees can be united into one full colony. If a person is desirous of increase he could feed the smaller colonies in early fall and give them brood from strong colonies, otherwise it is better not to attempt to winter them. I would like to be doing such work as this in the apiary now (Aug. 4th) and would do so if I had not such near neighbors, and people are constantly passing on the side-walk, and I do not want to risk making the bees cross.

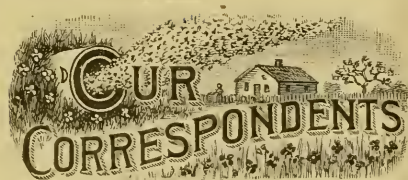
HONEY DEW.

This brand of honey is now coming into the city quite freely, and dealers seeing the white comb purchase it, but it will be a detriment to the trade. There may be persons who enjoy this honey but they are few and far between. One groceryman reports that he gets a blowing up from all his customers that he has sold to, for selling them such stuff. I knew that there was much honey dew and little prospect for honey from any other source and delayed putting on sections, preferring to encourage swarming and the raising of bees upon it.

Peoria, Ill.

If it is necessary to feed some weak colony of bees in the spring and other bees begin to rob them, remember the old and simple remedy: Place straw loosely against the entrance and wet it. The robbers in crawling through get wet and lose their grit, stopping the robbing at once.

James Hondon, of Cass co., Mich., has in his honey house a convenient and inexpensive apparatus for liquifying candied honey. A large galvanized iron tank stands on the floor and is connected by two pipes with a coil of pipe in a stove in the cellar below. A very little fire will keep the water in the tank hot. Fourteen 58-lb. cans of honey may be put into the water of this tank, a fire built in the stove, which, after receiving a large chunk of wood, is closed tight and left until the next day, when the honey is liquid and its color has in no wise suffered. This arrangement cost less than \$30.



EDITOR AM. BEE-KEEPER, Dear Sir: Please grant me the privilege of making a few statements which are just as positive and less misleading than some of the statements and conclusions made by Mr. Alley in his article in the July number of the BEE-KEEPER. First, he says that he selected the lightest colored queens and expected very white bees. Now, if he has bred Carniolan queens eight years and has taken observations, he should know that those queens had the most of the yellow blood in them and he should not have been so surprised at the results. Again, the indistinct yellow bands in more or less of the workers that Andrews & Lockhart sent him were all in his fertile imagination. I selected that colony of bees for Mr. Alley personally and know that they were evenly marked and no such conclusions could have been arrived at. Again, he says there is not a dealer in dark Carniolans who can produce a queen whose worker progeny are more or less "striped." If he means in his statements yellow bands, it is misleading, and I can prove this to any ones satisfaction who will come to my apiary and examine. I very much regret having to make these statements, some of them at least, and have no time to continue the controversy, but the readers of the *American Bee-Keeper* are many and should not be misled. Yours, &c.,

JOHN ANDREWS.

Pattens Mills, N.Y. July 23, 1891.

W. T. FALCONER MFG Co., Gentlemen: Although not personally acquainted with the members of your firm, still I claim acquaintance from our pleasant dealings while acting as manager of the Rhode Island Bee-Keeper's Supply Co., of Providence, which position I gave up one year ago to-day and started for the far away and much talked of Salt Lake Valley, Utah. Since that date I understand that you have been publishing a bee journal, and if you prove to be as good in the editorial chair as you are at the head of your fine supply establishment it will prove a success. Anything I can contribute towards helping it along I will do gladly.

I have found in Utah everything I had anticipated, and to the bee-man it is everything one could wish for. A letter from a friend in Providence closes thus: "Bees doing poorly; honey crop short." I smiled as I thought of how we used to watch and wait for the blooming of this and that honey plant, and then stand in fear of a rain storm that would spoil everything. That is why in Utah everything is changed. No rain to bother us and still no end to the honey crop, from early spring until the cold weather late in October.

I anticipate making a display of bee-keeper's supplies at the fair in Salt Lake City; if so will want to order some goods from you.

Please send me copy of magazine and catalogue.

Yours truly,

CHAS. W. FROST.

Ogden, Utah, Aug. 2, 1891.

EDITOR AM. BEE-KEEPER, Dear Sir: I find that buckwheat is no good for Italian bees. I have just examined two large fields of Japanese buckwheat in full bloom and could not find an Italian bee anywhere. The field was just swarming with brown or our native bees and occasionally a Hybrid. I have 23 colonies of full-blooded Italian bees in the same yard with my brown bees.

Bees do not fly as far in some places as they do here, according to reports in bee journals, for I have followed bee-lines of our native bees three miles and a half and cut the bees out of the trees, and I have seen Italians four miles from home. Yours truly,

S. NELSON.

Wistar, Pa., Aug. 5, 1891.

[We believe it is generally understood that Italian bees do not work to any extent in buckwheat, while common bees and Hybrids usually get a good harvest from it. We have known of common bees storing buckwheat honey in one hive, while next to it was a hive of Italians storing white honey.—ED.]

EDITOR AM. BEE-KEEPER, Dear Sir: As at this season of the year one can make a reasonable colculation of the honey crop, I will say that the crop of light honey is very slim and the prospects for a fall flow are not very flattering. It is very dry here. There was a very heavy flow of honey dew early in June and July, it being the first that I have experienced. I have been in the business five years and have 55 colonies.

LIONEL BROKAW.

Summer Hill, Aug. 10, 1891.



FEEDING BACK.

Whether feeding back to secure the completion of partly filled section pays, in the long run, I shall not now attempt to decide, but I shall content myself with suggesting three or four points which must be maturely considered before the question can be rightly determined.

First, the honey thus produced is never, I think, of the finest quality. I always imagine it to have a flavor foreign to comb honey produced in the ordinary way; and, at least, it candies readily, which alone is likely to place it among the lower grades of honey. Secondly, when it becomes noised abroad that comb honey is produced by feeding the bees, consumers will be startled, and the markets will be affected more or less; and the sale of candied comb honey will have even greater effect upon the market. The inexperienced will buy it unawares and the purchase by them of no more honey of any kind would be a very natural result. Thirdly, to be a success, feeding-back must be done in the interval between basswood and fall flowers, when, of all the year, the weather and the bees are the most trying—a combination which makes the labor very undesirable. Fourthly, if foul brood should find a lodgment in an apiary, and remain for a time undiscovered by the apiarist, nothing else would

spread it so rapidly and effectively as feeding back.

Were it not for these troublesome matters, feeding back to make partly filled sections available for the market, would, no doubt, be profitable. To test the matter somewhat, three years since, I fed one colony extracted honey sufficient to complete three cases of sections—not sections partly filled but new sections with—foundation. When completed I found I had fed 124 pounds and had in three cases 78 pounds of comb honey in fine shape. There was not a pound of honey in the brood chamber either when the experiment was begun or when it ended. In this case there was perhaps profit enough, as markets usually are, to pay for the labor involved besides leaving the colony in greatly improved condition.

Now, suppose I had varied this experiment by taking six cases partly filled, containing, say 60 pounds of honey. As the foundation would be well drawn out, and consequently the honey more rapidly stored, I estimate that the 124 pounds would have been sufficient to complete the cases and turn out at least 150 pounds of well-capped comb honey. We may approximate the profit of comparing the expenses with the result. The 60 pounds of unfinished sections would be worth not more than the extracted honey, which being added makes 184 pounds, at say eight cents, giving an expense of \$14.72, which, taken from \$24, the value of 150 pounds of comb honey at sixteen cents, leaving a profit of \$9.28, or sixty-three per cent. The improved condition of the bees and the increased salableness of the product may be

considered an equivalent of the necessary labor.

To insure the largest success I have found that the following several particulars must be faithfully observed :

First—If separators are not used, it will not do to put the unfinished sections into cases haphazard. The comb of some must be trimmed and sections equally worked out must face each other in order to secure shapely sections of honey.

Secondly—Fairly strong colonies of proper characteristics must be selected for the work. Italians will not do well. So far as my experience goes, a cross between the Italian and the black, with the blood of the latter predominating, rather than that of the former, is best.

Thirdly—The brood chamber must be contracted to the capacity of five L. frames.

Fourthly—The work must be done during warm weather and should be undertaken promptly on the cessation of the flow from white clover and basswood.

Fifthly—The feeders must be kept constantly supplied with honey, which, I think, should not be diluted, but fed as it comes from the extractor.

The feeders should be capacious, and immediately above the sections.

By observing these hints and the dictates of sound common sense any one may, I think, attain fair success; but as I have intimated the work is not a pleasant one, and it is well worthy of consideration whether it would not be better to keep a few more colonies and thereby obtain equal results with less of wearing labor.—
B. K. M.

HINTS TO BEGINNERS.

Operations for the month of September form a very important part in the successful wintering of your bees. Where there are plenty of fall flowers (which there are in many sections), and most of the season's honey is gathered this month, the management would be the same as given for August—only the bees must have prompt attention at all times. In our section we expect a fine crop of golden rod and aster to be harvested this month, and, in fact, it generally runs through the greater part of October. As for August, or at least the fore-part of that month, it now being the 15th, there has been no honey to speak of, except sweet clover, which has about run out except in places where it was cut down in July, such places are in full bloom and bees working nicely. As for the golden rod, it is just commencing to bloom and I look for it to throw off honey daily.

The past month I shall put on record as being the worst month of my experience with robbers. They were simply horrible, and would rob from morning until night and take advantage of every loop hole, until it really began to get serious and I looked around for help—but I am leaving the subject, as I believe I said all there was to say about robbers last month, and only hope that beginners have not had the same experience that I have had, for it would certainly try the patience of a saint.

Unsealed late honey is very poor food to winter on, and if close extracting has been practiced it will be necessary to feed, unless good sealed combs (which have been set away for

the purpose) can be inserted—this I believe I recommended the beginners to do in the summer honey flow—however, if you have no sealed combs take a Hasting's feeder, fill it with spring honey, which has been set on the stove until it comes to a boil, and feed at night, not. This feeder causes no robbing whatever. Where fall flowers abound I think it hardly probable to get it into the boxes, as the cold nights will drive the bees from the cup and thus leave the curing process undone, the result can only be a lot of boxes partially filled and uncapped, and of no use only to feed back. Hence I would say, by all means use the extractor and throw this honey out just as fast as it is gathered, for instinct tells the bees winter is coming on, and these combs must be full for stores, and it will astonish one unfamiliar with the extractor what a vast amount can and will be gathered by the little fellows you are fooling so nicely.

September, like August, is a good time to introduce good young queens, for it is all important that to be a successful bee-keeper you must have new blood, as well as in all other stocks. Keep up brood rearing as long as possible, even if you have to feed for stimulation, as the more young bees you have the better they will winter.

Look well to your surplus honey and get it up in nice neat cases, and, knowing what the market demands, the smaller the shipping crates the quicker the sales and far better prices. Fumigate box honey before sending to market, and do not be in a hurry to get it there, for, as a rule, the bee-keepers in general rush their honey to

market this month and next—the result there is a so called “glut” in the honey market—“let it go slow,” it is just as safe on your own shelves as it is in the New York stores, and you stand a better chance by shipping late than you do when sent so early, or at least the first of the season. Honey should bring a very fair price this season as basswood was a failure generally, and that is the principal crop of our largest producers in this and the surrounding states.

Keep no queenless stocks after this month. Unite all weak or queenless stocks. Be prepared to go into winter quarters in October, when I will give all the minute details for wintering.

As the honey harvest is about over we shall be pleased to receive full reports from all of the new beginners. You need not mind whether your report is good or bad, send them along for publication.—*Tredwell.*

THE THREE METHODS OF INTRODUCING QUEENS.

As the introduction of queens by any mode will not be for the instruction of the “vets,” I think we should make the best way we know of as plain and simple as possible, that the most unskilled and nervous juvenile in the art could not make a failure.

We have three old, standard methods, all tending to or involving the same principle, that of causing the queen to act as careless of the presence of any strangers as if she were in the home from which she had just been transposed. I have always held that, in successful introduction, everything depends upon the *action of the queen*. If we could persuade a virgin of four

or five days to act as much like a laying queen as does one of a few hours, we would have as little trouble getting the bees to accept her as we do the laying queen. But we can't. Almost the first antennæ that touches one of that age she starts, throws up her wings in a “touch me not” manner, and is next seen racing over the combs with a few old veterans of the field in her wake. Finally she is captured and held tight by each hind leg. This is the beginning of the end. The result is she is balled and if not aided is killed. I think it pays a queen breeder better not to fuss with virgin queens more than twenty-four hours old.

The first, and I think the best, of all plans is that of caging the queen on one of the comb, allowing the bees to liberate her by cutting away the comb, and it matters little where she is placed, whether over hatching bees or not, only that she is put where she can get honey from the cells, if she is not provided with food in the cage. After she is so placed do not disturb the bees for at least 48 hours. It is well to observe this in any way we get a new queen to a colony, unless they have been queenless at least seven days or until they have had time to build and seal a batch of cells. Then they will accept almost any well behaved queen.

The next best way is in having a cage with a place of exit filled with “good candy;” the bees will eat it away making a clear passage for “her royal highness” to stroll out at her leisure. Some one has said by the time the bees have eaten away the food they will be in a good humor and will accept the queen, but I believe the bees are always in a good humor when in

the presence of a queen that knows how to behave herself.

The third way is that of having the queen altogether confined in any kind of a cage and placed in a queenless colony for forty-eight hours, then liberate her. She is by this time very apt to be accepted; if not well received then recage her for another term of imprisonment.

With any plan we must first be sure the colony is queenless before attempting to give them a new queen. There may be many other ways, according to books, to introduce queens but the foregoing are the chief and only safe ways.

In my own apiary I adopt myself to circumstances more than to any particular mode of introduction. I introduced a selected queen to-day. Suppose I tell you how I did it. It took ten minutes. The colony was one that had raised a batch of cells. In taking them away the robbers became very troublesome; I feared to open the hive, after closing it in their presence, so I placed the queen, (she being in an empty cage without food) directly at the entrance. In about a minute the cage was covered with bees, some feeding her through the wire cloth. I quickly removed the cage about 6 or 8 inches away and opened it, when the same bees that adhered to it acted as an escort to lead her to the entrance, where she walked boldly in followed by a merry lot of bees all buzzing a real hearty note of welcome from each of their little wings. All this with dozens of robbers flying around. I am not much of a believer in any particular cage for introducing queens, as we have

only to allow the queen, if a laying one, to become acquainted or used to the bees, and all trouble is over. Sometimes it takes one hour and sometimes forty-eight -- *W. J. E. in Review.*

CAREFUL HANDLING OF BEES.

If there is one point I would impress upon the mind of a novice in bee-culture more than another it is to acquire the habit from the first of very careful handling.

While attending a National bee-convention at Cincinnati, I was surprised and delighted with the good behavior of Mr. Muth's bees. There were about 40 colonies on the roof of his store, and there were about as many visitors as could be accommodated in the passage-way between the rows of hives. I do not remember that Mr. Muth used any smoke; I rather think he did not. He opened the hives, lifting out combs, and pointing out the queen to the visitors who stood closely around. No one present had any protection, and though it was late in fall, when no honey was being gathered, there was no stinging.

AMABLE BEES.

Bees came in and out of the store and customers did not appear to notice them more than flies. If a bee touched the hair of one of Mr. Muth's sons, he very gently brushed it aside. I said to one of them: "Do you ever kill any bees?" He said: "O, no! if we did father would go for us."

After inspecting the apiary of Mr. Muth, a party of us took carriages and were driven to Mt. Healthy, to visit the apiary of Mr. Hill. Here I

noticed the same thing. While a party stood around an open hive, I kept at a respectful distance, and remarked to a daughter of our host, I never before saw any bees like your's here in Ohio. She replied: "It is all in the handling; my brother used to help father and the bees were very cross; but since I help him they are not so any more. I work gently, and never jar them, or strike at them with quick motions, and they never get excited." Hives manipulated without snap or jar, are most desirable.—Our first hives had the frames covered with a board that pried up with a snap, which caused the bees to immediately elevate their tails, and a tiny drop of poison was occasionally seen. When, in lieu of this board, duck or heavy muslin was used, it was a move in the right direction, for this could be peeled back without causing any disturbance at all.

MASHING BEES.

This is another justifiable cause for war, as it releases the poison, and the scent of it angers them. When the clothing of a person has this scent, bees will attack it when near their hive.

In most apiaries of any size there will often be a score or so of bees which appear to follow war as a business—never apparently going to the field for nectar, but watching the doors for some one to attack. The best way to manage such fighters, is to dispatch them at once; a palm-leaf fan is a good weapon; knock them down and step on them. This is much better than to be annoyed by them for weeks.—*O. J. F., in Am. Bee Journal.*

The American Bee-Keeper,

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THE AMERICAN BEE-KEEPER,

FALCONER, N. Y.

 Subscribers finding this paragraph marked with a blue cross will know that their subscription expires with this number. We hope that you will not delay in sending a renewal.

 A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

With this number we begin sending the BEE-KEEPER to the former subscribers of the *Bee World*, having purchased of Mr. Vandruff his entire interest in that lively and instructive little journal. Mr. Vandruff regrets sincerely that matters have so come about that he is compelled to give up the publication of the *World*. Its subscribers will lose nothing, however, by its discontinuance, as they will receive the AMERICAN BEE-KEEPER for the full term of their subscriptions, and in case they are already subscribers their time will be extended sufficiently to cover both subscriptions.

Mrs. S. E. Sherman who writes occasionally for the BEE-KEEPER, is now editing a bee department in the *Southern Horticulturist*. She is one of the most successful bee-keepers in Texas.

English bee-keepers are enjoying the best honey season that they have experienced for years. England covers so small an area that the Britisher usually has either a good crop or a poor one over the entire country, while here in America there may be a bountiful flow of honey in one state and none at all in another. This seems to have been the case with us this season. In some parts of the Empire state large yields have been reported, while in other places no honey at all has been gathered. Taking it altogether the season has not been a failure, but we would like to have it a great deal more profitable. We have not been blessed with a "real good" honey season for a long time, and when it comes it will be appreciated.

We were somewhat amused recently while looking over an old number of the *Bee-Keeper's Magazine* to find considerable space given to the matter of "Dollar Queens," the writer claiming that untested queens at that price are "too cheap." Just as good untested queens are sold today by the best breeders at from 40c to 75c each, while \$1.00 will get mated queens of the best grade.

FIVE PER CENT. DISCOUNT.

We are now allowing a special discount of 5 per cent. on all orders, excepting for shipping cases, and honey jars and cans. This discount will hold good until Dec. 1st, after which the following discounts will prevail: In December 4 per cent.; in January 3 per cent.; in February 2 per cent. This fall will be a good time to lay in your supplies of such materials as you

know you will want next season, and we can also give you better goods now than in the busy season, as we have plenty of time to make the goods carefully. However, we always try to give our customers the best we can turn out at all times.

An unfortunate but singular event occurred a short time ago at a flower and bee show being held at a small town in England. A gentleman was delivering a lecture on bee-keeping in a tent, and near by stood a large tree under which were nine men listening to the discourse. A thunder storm suddenly began and the tree was struck by lightning, killing three of the men and three were badly injured; the others were but slightly dazed.

Mr. Frank Benton, well known from his prominent connection with bee-keeping and the importation of queens into this country, has secured a desirable position in the Apiarian Section, Division of Entomology, Washington, D. C.

It looks as though good honey would bring good prices this season. The present price of new honey can be found in our market quotations.

We have received recently a sample lot of Punic bees from E. L. Pratt. They are very lively and seem to be very hardy.

The July number of the *Bee-Keeper's Guide* contained the article "True Calor of Carniolans," by Frank Benton, clipped from the BEE-KEEPER, but credited it to the A. B. J.

Our subscription list now embraces that of the *Bee Hive*, *Advancé* and *Bee World*, besides several thousand of our own subscribers, yet our advertising rates remain the same: Shrewd advertisers readily understand why ads. pay so well in the BEE-KEEPER.

TO OUR CUSTOMERS.

During the past two years we have given our customers frequent causes for complaint, by our inability to ship goods promptly, and by our not furnishing in all cases the snow-white sections which we formerly sent out. Both these difficulties arose from the lack of a good supply of first-class basswood lumber. Owing to the very open winter of 1889-90 it was practically impossible for us to get any quantity of white section lumber at any price; a difficulty that was experienced by all large supply manufacturers. Last winter we purchased over one million feet of the nicest basswood that we have ever seen, and hereafter we can positively guarantee to furnish our customers with as nice sections—and other goods—as we have always done in the previous ten years.

Early in the past season we endeavored to ship sections made from our present stock of lumber, but as it was not then sufficiently dry a great many of them became mouldy before being used. This difficulty cannot possibly occur hereafter. And as to prompt shipping, we wish to say we have greatly enlarged our capacity at an

expenditure of over \$12,000.00, so that we feel amply able to fill all orders with greater promptness.

We make this explanation to our friends so that none may hesitate to favor us with their orders the coming season. We want your orders, and assure you will endeavor to send you better goods than you have ever purchased elsewhere, and at prices as low or lower than any other dealer or manufacturer.

Our new illustrated catalogue for 1892 will be mailed you about Jan. 15th. Until then the prices in our 1891 catalogue will hold good, but we are allowing 5 per cent. discount on all orders received before Dec. 1st, excepting on shipping cases and honey pails and jars. The discount in December will be 4 per cent.; November, 3 per cent.; January, 2 per cent.

Awaiting your valued orders, we remain, Yours very truly,

THE W. T. FALCONER MFG CO.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

	PUB. PRICE.	BOTH.
American Bee Journal,	(\$1 00)	\$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(75)	1 15
Gleanings in Bee Culture,	(1 00)	1 35

Bees enter the hive best against the wind. Most of the wind and rain comes from the west. If the lay of the land, etc., is convenient, the hives should face the east. The next best position is to face them to the south. [J. H. A.]



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OCTOBER, 1891.

NO. 10.

Wintering Bees.

BY A. N. DRAPER.

It would seem that this subject has been pretty thoroughly discussed from every standpoint, and yet it seems as interesting as ever.

In this locality the wintering problem has never been difficult. A fair sized colony, with plenty of stores, will live through the winter almost anywhere, in the cellar or on the summer stands.

The only thing then is to determine in what way to winter so as to have them in the best possible shape for the early spring crop of honey, with the least expense of labor and honey and cost of protection.

The plan of hauling bees home from out-apiaries for the purpose of placing in the cellar for winter, is too laborious for one moment's consideration.

The idea of an outside winter case is usually too expensive.

My winter cases cost me but 2 cents per hive for my large, improved Dadant-Quinby hives. The 8-frame Simplicity case cost but $1\frac{1}{2}$ cents per hive. This looks unreasonable, but it is a fact all the same.

I found a lot of lath that had been used in an old pressed brick factory,

almost new. They were 2 feet 8 ins. long. There were six laths nailed together with four cross-pieces nailed and clinched to them. I simply cut these apart in the middle, making two solid pieces, 17 inches long by 10 ins. wide, composed of 6 pieces of laths, with two pieces of lath clinched to them at right angles. There is a crack of from $\frac{1}{4}$ to $\frac{1}{2}$ inch between each two lath.

I use six of these around an 8-frame Simplicity hive, and eight around a large Dadant hive. They are held in position by coarse tarred twine such as is used to hold box lumber together, or such as coopers use to hold barrel hoops and staves, etc.

My hives are placed on bricks or stakes from three to six inches from the ground. I pack my bees just about the time leaves have fallen from the forest trees, and use the leaves to pack with. I use a wagon box with extra high side boards and end gates to haul the leaves in. One man tramps the leaves in the box while another tosses them in with a large two bushel basket. It takes about one load to 20 hives. It is but a short job if done at the right time. We first stuff the leaves under the hive tight, then fill

the cap, which should have some ventilation near the top. I use two division-boards in the large Dadant hives, and place seven or eight frames of honey in the center with the division boards up next to the honey, then it leaves about four inches to fill with leaves between the division boards and outer wall of the hive on each side of the cluster. As my caps are different from anything I have read of, I will describe them. They are composed of a rim 8 inches wide without bottom or top. With the bottom and top edges cut ship lap so the lower edge fits over the top of the body of the hive and the shallow roof fits over the top edge of the rim. After removing this shallow roof this chamber 8 ins. in depth can be filled with leaves and packed right where wanted a great deal quicker and better than the old-fashioned roof. In the summer time it is left right on the hive and the case containing the combs for extracting fits right inside of it and rests on the division-boards and ends of the body. The top-bars of the division-boards are $\frac{3}{8}$ inch thick and the shoulders of the top-bars of the frames only $\frac{3}{8}$ inch, thus leaving a bee space of $\frac{1}{4}$ inch between the brood-chamber and brood case.

But to return to the outer-case: After filling the roof and stuffing underneath. We take 8 of the pieces 17 inches long and 10 inches wide, costing just exactly 2 cents for the 8, and thread them with twine at the top and bottom. Draw this around the hive with the bottom end resting on the ground. Now tie the bottom ends of the strings together and the top ends together, leaving about one-third of

the south side of the entrance end uncovered. (I have the entrance of most of my hives facing east.) Now crowd leaves between the lath and outside of the hive beginning first at the back corners of the hive. Crowd them in pretty tightly and they will shed water almost equal to a duck's back, except right at the top, and they will dry readily even in winter, as they are up where the wind and sun can strike them. I have to hear of a better way for wintering bees. It is well to have this packing cover most of the entrance loosely and crowd the leaves tight about the entrance, so as to shade it on sun shining days, as the bees should be kept from flying as much as possible on chilly days during the winter, even though the sun does shine out warm. Straw, chaff, sawdust, planer shavings, etc., are not to be compared to leaves. I have tried lining hives with building paper but it makes the hives too damp, in fact *wet*. The Dadants, in their "Langstroth Revised," say that they have for years, with success, wintered as above.

Upper Alton, Ill.

Ventilating Bee Hives.

BY H. M. DE WITT.

VENTILATION.—Bees get it, ordinarily, through the entrance, and through the cracks and crevices which are generally found in even the best made hives, providing the hive is properly constructed in other respects considered under the head of wintering bees. I do not believe in holes made in different portions of the hive and covered with wire cloth, because the bees persistently wax the wire cloth over, just as soon as they get strong enough

to be able to do so. If we omit the wire cloth, they will, in time, build the holes up, by much labor, with walls of propolis, until they have effectually stopped the inconvenient draughts that the improved (?) ventilators would admit at all times through the hive.

During extremely hot weather, a powerful colony may need more air than is afforded by an ordinary entrance, especially if the hive stands fully in the sun. In such a case I would much prefer giving the bees shade rather than cutting ventilating holes, which the bees will soon begin to use as entrances, and when the hot weather is over, and it is desirable to close these entrances, you confuse and annoy the bees by so doing. On this account I would give all the ventilation that a strong colony might need to keep them inside at work in the boxes, by simply enlarging the entrance. This can be done very readily with the Simplicity hives, and I have frequently given them an entrance, under such circumstances, the whole width of the hive, and as much as two or three inches broad. The chaff hive with its entrance 8 inches by $\frac{3}{4}$ has always had all the ventilation it seemed to require, because the sun can never strike directly on the walls of the apartment containing the bees and the honey.

For the same reason the house apiary with its two-inch auger-hole entrance has never required any further provision for ventilation. The chaff cushions placed over the bees in winter are kept over the surplus frames for the greater part of the time in summer to confine the heat during cool

nights; and from their porous nature they allow the escape of more or less air that comes in slowly through the entrance, the honey boxes having no other covering than the wide-frames that hold the sections and these same chaff cushions. I have obtained more surplus honey with this arrangement than with any other, and am firmly persuaded that a great loss of honey often results from allowing such a draught of air through the hive that the bees can not work the wax, unless during extremely hot weather. To test this matter I covered a large colony in the house apiary, with woolen blankets while they were gathering clover honey, to induce them to remain in the boxes even after the weather had turned quite cool. So long as the blankets remained on the bees would remain in the boxes working wax; but as soon as the blankets were removed, at each time the experiment was tried, they retreated to the body of the hive. The same thing was tried with the thin-walled hives out of doors.

SMOTHERING BEES BY CLOSING THE ENTRANCE.—Although bees will make out to get along, even with a very small entrance, we should be very careful about closing the entrance entirely, in warm weather, even for only a few minutes. Many are the reports we see every season of bees destroyed by simply closing their entrance, while undertaking to stop their swarming for a few minutes, until some other colony can be attended to.

Sunny Side, Md.

Few can afford to produce comb honey without the use of separators.

Progressive Bee Culture.

BY C. J. ROBINSON.

(Concluded from September Number.)

Mr. Langstroth recorded in the Country Gentleman. (See A. B. J., June, 1861.) "When I applied for the patent I was not aware that movable comb hives had ever been used, except those with movable bars, and the sectional frames of Huber. Very early in my Apiarian studies I constructed a hive on the plan of the celebrated Huber." Does it appear that Mr. L. conceived the idea of surrounding each comb with a frame of wood? Let us see. Further on I quote from Mr. Langstroth's same record. "Since my application for the patent I have ascertained that prior to my invention, other movable frames besides those of Huber, were in use in Europe." In the first edition of Rev. Mr. Langstroth's work, published in 1853, he says: "If Huber had only contrived a plan for suspending his frames instead of folding them together like the leaves of a book, I believe that the cause of Apiarian Science would have been 50 years in advance of what it now is." This avowal makes it an indisputable fact that Mr. Langstroth's invention was only that of suspending sectional comb frames, inside of the outer case, but in this Major Munn is entitled to priority.

Mr. Langstroth's patent, first issue, covered the suspending of comb frames in the case and so arranged that bees might pass between the frame bars. So far as I am able to learn, Mr. L. was the first who conceived the idea of lifting comb frames perpendicularly out of the hives.

It is said that Melissus, king of Crete was the first who invented and taught the use of the bee hives. I well remember the instance of the Crete king Otto presenting a Crete removable comb frame hive to Mr. Colvin of Baltimore. Cretes used the frame hive on the storified plan, three or more stories of frames, which instead of being let down into the outer case are put in from one side. The Crete section frames are shallow, and when two or more sections are used for a hive it is the same practically as the Simplicity. The Cretes argue that hives opening from the top allow the animal heat, the air rarified by bees, to escape to the injury or peril of the brood. Many bee-keepers in Europe argue the same. In the light of the history as recorded authoritatively, it appears that if ever any one man is entitled to be honorably mentioned as being the "father" of progressive bee culture it is our lamented Moses Quinby. I am aware that it is not generally understood wherein Mr. Quinby overshadowed Mr. Langstroth as bearing on the progress of the bee interest. Ere Mr. Langstroth appeared upon the stage as a writer on the subject in 1853, Mr. Quinby had by precept and example rendered bee-keeping a business to some extent. Mr. Quinby produced large quantities of honey for market prior to the advent of the modern frame hive. It was Moses Quinby who produced and forwarded the first invoice of honey sent to the New York market; the first who showed that honey as a marketable product of America. In this Mr. Quinby preceeded Mr. Langstroth. Mr. Quinby through his brother was

the first to establish a honey house in New York City.

In 1870 or 1871 Mr. Quinby requested Solan Robinson, then and for a long time editor of the agricultural department of the New York Tribune, to ascertain as nearly as possible the amount of honey sold by all the dealers in the city that year. Mr. R. reported that the aggregate amounted to 211,000 lbs. Northern honey, and nearly as much from the South, and West Indies. The canal boats of a firm at Little Falls, N. Y., carried that season to the New York market 80,000 lbs., of which Mr. Quinby or his son-in-law, Mr. L. C. Root, produced from their apiaries 25,000 lbs. I never knew that Mr. L. possessed more than about 40 colonies, but Dr. Miller says Mr. L. never exceeded 125 colonies, which is a safe report.

Mr. L. did not teach practical bee-keeping by precept, but Mr. Quinby, by his kindly example, lent a fatherly attention to aiding progress. Both Mr. Quinby and Mr. Langstroth were well known as men of staunch integrity, and both deserve a niche in history in memory of their respective talents devoted to the advancement of bee-keeping interests.

On the advent of the Italian bees into America, both Mr. Quinby and Mr. Langstroth engaged in rearing queens for sale. In this Mr. Quinby sold queens in numbers about in proportion to the respective difference in the production of honey. The modest, quiet Mr. L. could not cope with Mr. Q, a man of push and energy in the highest degree. Father Quinby has a record in the realm of progressive bee culture, that like the Star of

Bethlehem, is far more lustrous than any other of the train.

Briefly here, referring back to 1870, Mr. Quinby estimated that their 25,000 lbs. of surplus was gathered from about 30 sq. miles. Taking this for a basis we can calculate; New York State contains 47,000 sq. miles, can it be explained why every 30 sq. miles throughout the state will not produce 25,000 lbs. of honey? On this basis the product would amount to 39,166,666 lbs. Unquestionably 30,000,000 lbs. might be gathered annually, to say nothing about the other states. Like the Manna in Israel, it is freely given, and if it is not taken in season it is gone forever. It has come and gone for centuries, and what vast quantities, countless tons, have gone to waste in the past. This is but one of the many instances of our suffering for our stupidity or ignorance. This view may prompt the inquiry from some, "What can be done with millions of pounds of honey?" I answer by calling up the question, What becomes of billions of pounds of sugar? And what about the consumption of the millions of pounds of cheese produced in our country yearly? The consumption of honey as an article of food has just begun, and of course it will become more and more general, and the consumption will increase with those who have begun and will begin to use it.

Richford, N. Y.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

	PUB. PRICE.	BOTH.
American Bee Journal,	(\$1 00)	\$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(75)	1 15
Gleanings in Bee Culture,	(1 00)	1 35

How I Wintered by Bees.

BY S. P. HARDEE.

I made a trench 8 inches deep, with plow and shovel, and 3 feet wide and 30 feet in length. This trench I filled with oat straw, stamped down, and on this straw I set my bees. The hives remained on the bottom-boards or stand I use in summer. I use a bottom-board the same size of hive except in front, which projects four inches, and is beveled to shed water. The bottom-board is nailed on two pieces of 2x4 stuff, each 14 inches long, at front and rear, even with edges of bottom-board. I set hives on straw 6 inches apart, leaving wide bottom entrance open, and laid bent pieces of tin across top of frames to make a winter bee passage, covered the hives with mats made of one thickness of cotton batting covered with sheeting, and on top of cotton mats I put the upper frames—just the outside frames, and then put on the hive covers, thus giving little or no top ventilation.

I then placed boards on the sides of the row of hives, leaving the boards against the hives so as to form air spaces, and also laid boards over the tops of hives and then covered with straw, say four inches thick, and then covered the whole with ground.

This was done Nov. 26. Opened up my bees April 14, 1891, a nice warm day, and found 11 swarms out of 13 all right and two dead, one from mice getting in, and one from lack of honey, evidently.

After letting them fly awhile I looked them over and changed frames to even up the honey supply and bees also.

After that time we had some very bad weather, with severe frosts, even

the night of the 16th of May freezing ice $\frac{1}{2}$ inch thick.

I protected my hives by covering them in cold weather with carpets, oil cloth and boxes.

My plan of wintering as above described I believe much more successful than cellar or out-door wintering.

In this vicinity the losses have been nearly one-half in cellars and out doors.

Eminence, N. Y.



EDITOR AMERICAN BEE-KEEPER,
Dear Sir: In "Progressive Bee Culture," page 130 of the BEE-KEEPER, Mr. Robinson says that Mr. Weeks "invented a hive that aside from sectional movable comb hives is the best ever in use." Mr. F. B. Miner, for a number of years publisher of the *Rural American* and author of rather a large work on bees, *The Bee-Keepers' Manual*, about 1848, I think, invented a hive that by practical experience I deem far superior to Weeks' hive. The combs being invariably straight and true, and superior to the movable frame hive only for what is deemed indispensable in modern apiculture, the facilities for transferring combs from one hive to another. Yours, &c.,
Sylvan Beach, N. Y. P. W. LEETE.

EDITOR AMERICAN BEE-KEEPER,
Dear Sir: Please find inclosed 50c for which send me the AMERICAN BEE-KEEPER for another year. I love to read your paper.

Bees are doing well this summer. I had one colony that has increased to six, and took off over 200 lbs. of white comb honey besides, and the honey flow is not over yet. It will last until frost. Yours, &c., OTTO F. SEMKE.
Harrison, Kans.



NEW USES OF PERFORATED ZINC QUEEN-
EXCLUDING BOARDS.

(ADDRESS BY F. H. CYRENIUS.)

*Fellow Bee-Keepers of the New York
State Bee-Keepers' Association :*

In presenting this subject for your consideration it is principally with a view of your careful criticism more than to lay down rules for you to follow.

For excluding the queen from the boxes is of no account to me, which was, if I am correct, its first cause of invention.

Having already described its use for finding or separating the queen from the colony by shaking the bees upon a sheet between two hives, or arranged in a shallow box for the purpose of allowing the workers to pass through leaving the queen behind, is a satisfactory mode for finding shy queens.

To arrange for non-swarming extracting, just before swarming divide the bees and brood just as you would to make a new swarm, placing one-half the bees and brood in a new chamber, filling vacancies in both hives with empty comb or foundation and place one above the other with a sheet of zinc between. The queen must remain in lower hive. This operation will prevent all swarming if done at proper time, until the lower hive is again filled with brood.

We have taken nothing away from them, they have room for eggs below

and honey above in the empty combs or foundation, and as the brood hatches in the upper chamber they will have more room for honey.

At time of extracting again take about one-half of brood from brood-nest, place in chamber and change from the chamber of the brood-nest empty combs. This principle of drawing part of brood from brood-nest and replacing with empty comb or foundation at proper intervals, with me entirely prevents swarming and by placing the removed brood in upper chamber keeps the stock very strong and in good working order. In heavy flow of honey add an extra chamber if necessary.

I heartily recommend Mr. Doolittle's plan of rearing queens in upper chamber; and to this end place the chamber with entrance opposite to lower entrance and nearly all the queens hatched will be fertilized and begin laying in the brood-chamber, at which time it may be placed on a new stand and you have a fine swarm with a young laying queen. Repeat the operation again if more increase is desired.

Cannot this principle be carried out for box honey, viz.:? Draw part of brood from brood-nest, fill out with comb or foundation as before, put on boxes, place brood on top of boxes or at side of old hive, and occasionally shake them in old hive or allow them to enter as they hatch and are old enough, through a bee-escape, carrying out same principle of removing brood from brood-nest to prevent swarming, and returning the hatching bees to keep up the full strength of colony.

The above methods are for out-api-

aries. I can only speak for the extractor method with experience, which is perfectly satisfactory to me.

My next progressive step with the aid of zinc is to assist in queen rearing.

How annoying to find one queen, just hatched, out with a swarm, or all other cells torn down.

I made a number of zinc cages, the object of which was to allow the bees to pass out and in to give the inclosed cell all necessary care and to have the queens hatched all caged.

A cell of any age may be placed in the cage upon wire arranged for the purpose, and by dividing an L frame into three sections by two strips horizontally nailed in frame. We can place six cages upon each section, making eighteen in each frame. So you see a great many queens can be reared in one hive at a time, and you may get them as desired. Last season was my first experience with them and the result was very satisfactory. Any cells I wished to preserve were placed in cage and as they were hatched I could select or reject them, which is an advantage I did not appreciate until I used the cage.

My next plan was to make a section honey box with movable tin sides with zinc bottom, with a fly-hole out of section case, and by the use of one box we can rear queens and have them fertilized and begin to lay caged in single honey box.

Next came to my mind the idea of a zinc division board, thinking that it would be more effective for many purposes than solid wood. For fertilizing queens we have only to insert the zinc board between the outside comb pro-

vided with cell or virgin queen with entrance provided and we soon have a laying queen. Thus we can, with a few hives arranged in this way, secure the fertilization of a large number of queens in a short space of time without interfering with the full hive any more than to rear a queen in an upper chamber.

Two or more queens may be kept in one hive by the use of zinc division boards. The boards may be made of very thin lumber with narrow strips of zinc to save expense.

In the foregoing I have avoided as much as possible entering into any discussion of management only as it came in contact with the new uses of perforated zinc. Yours Respectfully,
F. H. CYRENIUS.

UNITING BEES.

The uniting of weak colonies is a matter of some considerable importance, especially in the fall, when preparations for winter are being made.

From various causes and reasons, many colonies are found after the honey season is over, that are too weak to withstand a cold winter in their present condition, and it becomes absolutely necessary to strengthen them in some way in order to save them.

In the early part of the season it is easy enough to stock weak colonies up by giving them brood from others; but after the advent of cold weather this course is impracticable, and some other must be pursued.

The expert finds the matter of wintering easy enough, but the beginner as a rule looks upon it as a serious job, and one that he is somewhat doubtful about undertaking.

The chief trouble found in uniting,

are the disposition of the united colonies to fight with each other, and thus prevent the effect desired, and if they do unite peaceably, the further disposition of the old bees to return to their old stand on the first day when it is warm enough for them to fly out.

In a small apiary it is quite easy to overcome the latter obstacle by moving the colonies, intended to be united, a short distance each pleasant day, till they are close beside each other, when of course the trouble spoken of, is entirely done away with. If, however, the hives are so situated with relation to each other, that they cannot be thus moved, the bees occupying them, can ordinarily be made to return to the new location, by setting up a board in front of the new hive, which being an obstruction, causes them to mark a new location, and return to it, especially if the old hive is removed entirely, and the appearance of the old location radically changed.

The most serious trouble, however, (as the matter of location is trivial) has been usually considered to be the union itself, owing to fear that the colonies would destroy themselves at once by fighting; this fear, however, is needless, as it is an easy matter to unite two or more colonies without trouble, if a few simple precautions are taken.

In the first place the queen that is the least desirable, should be removed from its colony, and may be utilized elsewhere if desired. The frames in one of the hives should be spread apart, and the frames of the other, with adhering bees, should be placed alternately between them. If the queen is an extra choice one, she may be caged for a day or two, as a precautionary measure,

but there is so little danger of her being disturbed, that I never do so. Of course the bees should be treated to a little smoke before attempting the operation, and if any quarrelling should take place after the union, a little more smoke may be given them, but I have found them to unite quite peaceably in every instance, and have never known a queen to be molested, even if not caged.

My theory in regard to the matter is this: The alternating of the frames of comb from each hive, so separates each colony from itself, and so mixes the bees up, that they become, to a certain extent, exceedingly bothered by the new state of things, and have something else to think about besides quarrelling, but whatever may be the cause hereof, I have united many colonies in this way without any trouble whatever, and consider it so safe and easy, that I do not give the matter a second thought. As I do others can do easily, and I advise all to unite weak colonies in the fall as a means of their preservation.—*Pond*.

A MINE OF HONEY.

Down at Temescal, San Bernardino county, near the famous San Jacinto tin mine, there is veritable mine of honey. There is large force of men employed at the tin mine, and they put in their idle time prospecting in the hills of the vicinity. One Sunday half a dozen of the miners applied to Colonel Robinson, the superintendent, for the privilege of using some giant powder and a few tools. He asked them what they wanted to do, and they replied that they had found a honey mine, and they proposed to tap it. Laughing, he gave his consent and an order on the storekeeper for the desired articles,

and, with a supply of pails and tubs, the men set out on their expedition.

They were gone all day, and along toward sundown a sorry looking procession came over the hill and made its way to the employes' headquarters.

They had tapped the mine, there could be no question about that. They were sticky with honey from head to foot. Hair and beard dripped with it, like unto the appearance of Aaron when he was anointed, even so that the oil ran all over him and down to his feet.

Their clothes were liberally plastered with a mixture of honey and mud, there was honey everywhere. But the tubs and buckets were full of honey as well, for a rich lead had indeed been struck.

The men, it appeared, had found a crevice in the rocks whence issued a constant stream of bees and from this they judged that there must be a large quantity of honey in the recesses of the cliff. The opening used by the bees was too small to admit of the passage of a human being and after carefully examining the place a tunnel was commenced a little way from the entrance and after this had been run the right distance an upraise was put in which by good luck struck the ledge of honey in its center. After a hot contest with the bees several hundred pounds of comb honey were taken out and the tunnel was closed up. Several times since additional supplies of the sweet material have been taken from the cave.—*San Francisco Chronicle*.

Extracted honey, if sealed air tight, is best stored in a cellar.

Cook's "Bee-Keeper's Guide," 460 pages, (revised,) reduced to \$1.00.

HOW TO INTRODUCE A QUEEN BEE.

Before the new queen is introduced the colony should have been queenless three days (72 hours). The next move is to destroy all queen-cells.

Insert the cage the queen is mailed in in one corner of one of the brood-frames. Then use fumigator and smoke the bees a very little with tobacco.

Do not blow too much smoke in at one time. Spend about fifteen minutes in the operation. During this time give the colony on occasional puff from the pipe. If the bees are so affected that they tumble down and roll out at the entrance, cease smoking them. The idea is to give just enough smoke to scent the bees and queen alike.

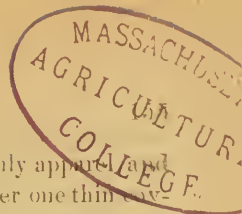
Do this work about sunset. The bees will release the queen by eating out the food.—*Alley*.

HOW SHALL WE PREPARE OUR BEES FOR WINTER?

It is believed by many eminent apiculturists that were it not for the fact, that on an average, fully one-half of our bees are lost here in the North, in wintering and the balance so depleted in numbers that the first and most abundant harvest is consumed by the bees, in strengthening up to the "working point". Honey might be profitably raised and sold at a figure so low as to cause its adulteration to cease, and honey become again as it was anciently, the principal sweet used by the masses.

Much of the honey produced in California nets the producer but six cents per pound, yet the business is profitable even at these low figures.

The secret of success in California is more in the fact that very few bees are lost in winter, and there is a suffi-



ciency of honey and pollen during winter, to enable the bees to continue breeding, and keep the hives crowded with brood and the young bees to store the surplus when the first harvest comes, than in any difference in bee-pasturage existing between that locality and ours; and in fact, as far as quality is concerned, we certainly will always have an important advantage. Hence, the vast importance of the question, "How shall we winter our bees, so as to avoid these annual losses, and to bring them out strong and healthy in early spring."

On a correct solution of this problem, largely depends the success or failure of several thousands of young persons just now commencing this delightful pursuit, and we feel duly our responsibility in undertaking to advise them in so important a matter; yet with several years experience of our own, aided by the methods of others who have generally been successful, together with our own personal inspection of hundreds of apiaries, (late in the fall), in most of the northern States, we feel we can throw out some hints that, if acted upon, will, in a majority of cases, secure the desired end.

The greatest cause of disaster to the bees, is the gross neglect of the owners to provide any protection to them whatever, during the winter. They are placed usually upon a long bench two or three feet from the ground, often in bleak places, with openings on all sides of the hive, and there left to "live or die," the year round; but this is the class that discard all modern improvements in hives, and, of course, take no paper devoted to bees; so we will not occupy space in advising them, but simply content ourself by wishing that all such, might be compelled to pass a few

days of midwinter in July apparel, and sleep a few nights under one thin covering. We think they would then realize what they inflict on their bees.

The great secret of successful wintering, we believe is to keep the interior of the hive perfectly dry; and in order to do this, the interior walls of the hive and sheets of comb, must be kept a temperature high enough, not to condense the breath of the bees, and at the same time, provision must be made, so that the foul air may escape and fresh air be admitted.

In wintering in cellars or bee-houses, this object is partly accomplished by regulating the temperature; but we have objections to these modes which will prevent our recommending them except in the very coldest sections of the country, say Canada or Alaska.

We once wintered 80 stocks in a double walled brick bee-house; we carried them out during winter, on fine days, and gave them a "fly." They came out in March "bright as a dollar," and the first warm day, we placed them on their summer stands, thinking all danger was now over; a spell of two or three cold days came on, and in less than one week, more than half of our yellow beauties were dead. The sudden change was too much for them and this same result we have known to occur in many other apiaries. Still we do not condemn good, dry, ventilated cellars or bee-houses but recommend great carefulness in their use.

The bees should be set out and allowed to fly once or twice during the winter, and when put on the summer stands, they should be closely watched, and set back whenever it is very cold. But there are many bee-keepers who have neither cellar room to spare, nor

have they bee-houses, and if they had they would probably not attend to all the requirements necessary to secure the safety of their bees.

We will now give the method we deem the most feasible to the great mass of bee-keepers using single walled hives; and which, if properly carried out, will bring the bees safely through, in majority of cases, the most severe winters on their summer stands.

We assume that our instructions regarding fall management have been complied with, and that your hives contain young bees, some brood, a good prolific queen, and about thirty pounds of sealed honey each. Remove all boxes and honey boards; place three strips, one half an inch thick or less, across the top of the hive on the frames, over these strips, place a piece of carpet or quilt, and over this a straw mat about two inches thick and closely put together.

Put on the top and bore two holes in its sides to allow the air to circulate above the mat. Place over the hive a box without bottom or top, sufficiently large to allow a space of four or five inches between it and the hive. Fill this space with chaff or straw closely packed and covering all parts of the hive except the entrance near the bottom. Cover all so as to keep perfectly dry. The stand on which the hive rests should be about four inches from the ground. An opening should be cut in the case at such a height that when placed over the hive the opening will be flush with the top of the stand, thus giving bees an opportunity to fly and return when suitable weather permits. The passage way from the hive to the outer opening

should be protected from any litter used in filling in, by placing a strip of board just above the entrance, which may be kept in position by two short upright pieces of the same width, A strip or cleat nailed just below the outer entrance, would form a sufficient alighting board.

The box coverings ought not to cost more than twenty-five cents each, and will last several years. Common box-hives may be treated in the same way, by first boring holes in the top.

The thickness of the coverings should of course vary with the climate, and in the South, a good straw mat placed above the frame will probably be all that is necessary,

Some of the advantages of this plan of wintering may be summed up as follows; The space between the top of the frames of the hive and the mats, will enable the bees to pass over from one frame to another, in a warm atmosphere, when it would be impossible for them to go from one space to another between the combs if they had to pass around the bottom or sides of frames; sheets of comb hiving passage ways made in them, afford yet a better and safer means of communication.

The mats above the frames will allow the moisture of the hive to pass off without reducing its temperature, while the outer case and filling, prevent alike, the cold, piercing, bitter winds and weather of winter, from condensing the breath of the bees on the sides of the hive until they are encased within ice-lined walls, or the rays of sun in warm spells of winter and very early spring, from decoying the bees abroad to be chilled to death.

The outer entrance might be provided with a very simple and convenient adjustable arrangement for opening and closing the passage-way to the hive, by means of a strip of wood one-half inch thick by one and one-half inches wide, and of convenient length, held in position by a wooden button. With this moveable strip the entrance may be almost entirely closed in zero-weather, or removed entirely in day time during mild spells, when it would be desirable to have the bees fly. The case can be left on until the settled weather of spring prevents any probable return of disastrously cold weather.—*Bee-Keepers' Magazine*.

[The above article contains many very good suggestions. Instead of using a box for an outer case, our new thin-walled outside case will be found cheaper, neater and much more convenient.—ED.]

WINTERING.

There is hardly any doubt in my mind but that the most successful wintering is attained by those bees wintered on the summer stand in a good chaff hive. There are many reasons for my opinion, but will give only a few, as the more space the beginner has to go over in looking for advice, the more difficult that advice seems to be for him to follow. My principal reasons are: There is no labor of moving bees in and out of the cellar; hives being always on the summer stand they can be reached at any time, and if one or more is short of stores a comb can be laid on top of the frames without disturbing the bees in the least. Bees wintered on the summer stands are very seldom, if ever, troubled with spring dwindling, and never with diarrhoea, simply because if they require a

fly there are many warm days on which they can take the necessary flight. In October the beginner should ascertain the exact condition of every stock, both in reference to their stores and number of bees in each hive. Should you and any lacking in either or both these points supply them with food, or if weak, unite two or more stocks together. Each and every stock should have 25 lbs. of honey to insure them food enough until "the flowers that bloom in the spring," commence to secrete honey. You can generally find stocks with enough surplus to make up the deficiency in other hives, and thus by changing around you equalize your stocks and put them all in good condition for the coming winter. Should the lower part of your combs be empty place them in the center, as bees need empty cells to cluster on. If they are full put one empty comb in the center of the brood nest, especially for the cluster, and be sure and make the brood nest as small as possible as the less space they have to keep warm the better they winter. Now place a stick about one inch square across the top of frame and then lay on your chaff cushions. This stick allows a free passage from one comb to the other and does not expose the bees as it does when they have to travel around the end or down to the bottom to reach the next frame. Set the board over the entrance to keep out the sun, for should the sun shine in too bright they might fly out when the air is really so cold that it would chill them. Do not disturb your bees through the winter, unless at the close of a long severe cold spell, when, if it is warm, you may remove the board and open the entrance full and let them fly. Thus

they will void their feces and return without any loss to the stock. In uniting bees smoke them thoroughly and sprinkle them with sweetened water, and shake all the bees from the combs, in the bottom of the hive. Get your honey ready for the market and dispose of it as near home as possible. Don't forget your country fairs; make an exhibit and get the people interested, and in this way the growth of your home market will surprise you. Make up your mind to spend a large part of your time this winter with bee literature, and study all parts of your chosen vocation thoroughly.—*Bee Keepers' Magazine*.

[The above article was written several years ago, but it is just as true to-day as it was then. However, the single walled hive with outer case is taking the place of the chaff hive to a large extent, and we believe that bees can be wintered more successfully with them than with the chaff hive or in the cellar.—ED.]

When it is too cold for the bees to fly in the shade it is a bad plan to meddle with them unless it is to feed them.

Most of the best bee-keepers wedge their sections or honey boxes tightly together to prevent propolis being deposited between them.

There are over 200 bee-keepers in Sanilac county, Mich., and it is estimated that the value of their annual honey crop is \$60,000.

"Blood will tell." This applies to strains of bees as well as to families of human beings, and they differ as greatly in characteristics.

The American Bee-Keeper,

PUBLISHED MONTHLY BY

THE W. T. FALCONER MANFG CO.

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THE AMERICAN BEE-KEEPER,

FALCONER, N. Y.

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 A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

While on a trip recently we stopped a day at Detroit and attended the Exposition then in progress. The display of goods was not nearly so large as last year or the year previous, but the honey exhibit was an exception. It was better than ever before, and was indeed a credit to the exhibitors, especially that of M. H. Hunt, which consisted of a castle 32 feet long, 8 feet wide and 18 feet high, constructed entirely of beeswax and packages of honey. While there we had a short but pleasant interview with Brother Hutchinson. We also met friend Hunt. We regret that we could not spend more time with them.

In *Gleanings*, for Sept. 15, Rambler gives an account of his recent visit to our factory, and includes also two illustrations, one of which is supposed

to be a Hawk-eye picture of our main factory. We would never have recognized it, however, if it had not been labeled. The other picture shows Rambler listening to a song on our Phonograph. Friend Root explains as follows, in a foot note to the article, and for his kind wishes we return many thanks:

"The Hawk-Eye photograph of Falconer's place of business was not very clear, hence we had to use zinc etching. We should have preferred to give our readers a real view by the half-tone process. Our business transactions with the W. T. Falconer Co. have been the pleasantest, and we are glad to note that they have built up their business by square dealing and good goods. *Gleanings* wishes them more and greater prosperity, and a booming circulation to the AMERICAN BEE-KEEPER, of which they are the publishers."

T. K. Massie, of Concord Church, W. Va., a bee-keeper of long experience, who has contributed many valuable articles to bee literature, will continue his series of articles which were in progress in the *Bee World* at the time he absorbed that magazine. This will be good news to the former subscribers of the *World*, and we have no doubt the articles will be of unusual interest to all of our readers. They will begin next month and will be preceeded by a short synopsis of the articles which have appeared in the *Bee World*.

Last month in answer to a correspondent we remarked, that "it is generally understood that Italian bees do not work to any extent in buckwheat, while hybrids and common bees get a good harvest from it." Our friend Dr. Miller says, that he sup-

posed that Italians would work as well as Blacks on buckwheat if nothing better was to be had. We agree with him exactly, but in this section when buckwheat is in bloom there are also other honey plants for the bees to work on, so that it holds true, as we above stated, that Italian bees do not work to any extent in buckwheat, as they prefer to work on almost anything else than that.

We are in receipt from the inventor, of samples of the latest Dibbern Bee Escapes. A careful examination of these fails to convince us that either of them are superior to the Porter, although one called the "Little Giant," is very similar in appearance, but instead of a spring gate through which the bees pass there are several little wires composing a gate which the bees push up as they go out, and after passing the gate falls down again effectually preventing them from returning. The other escape is made after the Labyrinth pattern, and is certainly an improvement on Mr. Dibbern's former efforts in this direction and will doubtless work satisfactorily, although it seems to us that it is liable to become clogged. We cannot refrain from advising our readers to purchase a Porter escape, if they wish to get one which is sure of giving satisfaction.

Punic bees are being discussed almost as freely in the English bee papers as on this side of the water, and no one seems to know anything definite concerning them. It is claimed that they came from Africa, but as to the exact locality no one seems to be able to tell. They certainly have

a peculiar appearance, but their points of superiority are yet to be discovered. The great claims of their superior qualities made by certain parties in this country, are, we regret to say, not fully substantiated by reports of English bee-keepers.

Since our last issue the Jamestown Electric Street Railway has been extended to Falconer and runs direct to our office. Cars run to and from all points in Jamestown every half hour, so that should any of our friends happen to be in the city at any time they can have no excuse for not calling on us at our office.

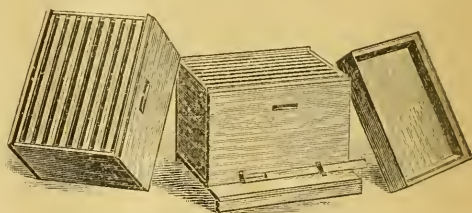
We wish our friends would send in some short articles for publication of interest to our readers. We need three or four articles for our next number.

The weather for the past three weeks has been most delightful, and bees in this locality are doing well on golden-rod.

We have seen nothing of the *California Bee-Keeper* for several months. Has it "gone up?"

Almost all standard styles of hives used in this country are made with the brood frames running at a right angle to the entrance of the hive. By so doing the frames in the Simplicity, Dovetailed and kindred styles of hives have considerable more length than depth. All standard extractors are made to take such frames, and we do not think it would be advisable to change, but there are a great many bee-keepers who believe that the better way is to have frames extended

across the hives parallel to the entrance. A writer in the *Bee-Keepers' Record*, (British), argues that by the parallel plan the frame next the opening forms a curtain, excluding cold draughts, and you can contract or expand a hive by use of but one division board; also, that you can turn up the quilt at the back of the frames and manipulate at the back with the hive top set forward as a shield from the observation of in-coming and out-going bees. One of our principal arguments in favor of the right-angle plan is, that it allows the air to circulate more freely, thus keeping the interior of the hive cooler in summer. This turns against us by claiming that the brood is killed by allowing draughts to come through the entrance up between the frames in late winter and early spring. Many experienced bee-keepers believe that a frame should not be any longer than its depth and that bees prefer to work down rather than across.



We make a great many hives for use in Southern countries that have nine 10x15 frames each hung across the entrance like the illustration here given. These hives seem to give almost perfect satisfaction to those who use them.

Use full sheets of foundation in both brood and surplus cases.

Cook's "Manual of the Apiary" reduced to \$1.00.



PUBLISHED MONTHLY BY THE W T FALCONER MANFG CO.

VOL. I.

NOVEMBER, 1891.

NO. II.

Apiculture in Canada.

BY ALLEN PRINGLE.

Ontario is the banner province of the Dominion in apiculture, as well as in everything else. Quebec is backward in this as in other things, and the lower provinces are far behind Ontario in honey production and progressive bee culture. British Columbia is rather better. As for the great North West its possibilities in bee culture, as well as other things, are before it. With the abundant and widely diffused *flora* it must ultimately become the home of the honey bee. While in Manitoba and some of the other provinces the length and severity of the winters will be the chief draw-back for a while, that will eventually be overcome, as the wintering problem is now being successfully solved.

The number of bee-keepers in this province of Ontario is roughly estimated at 50,000 to 75,000. Comparatively few of these, however, are advanced and progressive apiarists. The local societies, some of them embracing two or three counties, number about 25, while the provincial society, called the Ontario Bee-Keeper's Association, is a strong and thriving organ-

ization, legally incorporated, and receives an annual government grant, which enables it to do much towards the development of bee culture in the province. But the industry recently found itself seriously menaced by the prevalence of foul brood in some of the best honey portions of the province. To remove this evil we sought and obtained from the legislature an "Act for the suppression of foul brood among bees," under the provisions of which we have a foul brood inspector and sub inspector appointed by the Ontario Association, but paid by the government. With such facilities the disease will speedily be under control, if not entirely suppressed.

The honey of Ontario is not only unsurpassed in quality, as was demonstrated by her magnificent exhibit a year ago at the Indian and Colonial exhibition in London, England, but is abundant in quantity. No matter what the failures elsewhere may be, we have a crop, for if one part of the province fails another yields. Alsike clover, linden, white clover and in dry seasons red clover, give us the bulk of our light colored honey. Basswood, golden-rod, and a multitude of scat-

tering plants, in some localities very abundant, give us our dark or fall honey. In some parts of Ontario, including my own locality (Lenox Co.) in a good season there is a continuous yield of honey with very little intermission from the last of April until the first of September. The surplus flow begins about the middle of June and ends towards the last of August. On the whole, there are very few places in the world better favored by nature for the production, not only of honey, but grain, animals and men, than the province of Ontario.

At the last annual meeting of the Bee-Keepers' Association, several very valuable papers were read, followed by interesting and profitable discussions.

The question of Outside *vs.* Inside Wintering, and the various kinds of packing for double-wall hives and outside cases were discussed. The majority were in favor of wintering in proper repositories rather than outside with protection. But there was a strong element against inside wintering, no matter how good the repository. It was claimed that bees wintered inside were much more liable to spring dwindle than those wintered outside, properly protected. I am inclined to think that the parties in favor of out-door and against in-door wintering were mostly from the Niagara peninsula and other milder portions of Ontario, while those from the east and north were on the other side. There is some range of climate even in one province or state, and I fancy amongst the advanced bee-keepers of Ontario each one is doing what is best for his locality and circumstances in this matter of wintering inside or out, as well as

various other matters partly subject to environments. Through Ontario, British Columbia and the Northern States of the Union, there are no doubt many districts and localities where outside wintering, properly done, would be good, better or best, as the case might be, and many other places where it would be bad, worse or worst. In this, as in so many other things, the intelligent apiarist, instead of following rules or theories, must be guided by his own experience and observation.

I have tried both inside and outside wintering, and can winter bees either way, but my experience and study of the situation have convinced me that for this locality, taking one year with another, the inside wintering is both safer and better. When two or three prime conditions of successful wintering are secured it matters little where the bees are. The practical question for each individual is, how and where can I best and at least labor and expense attain these conditions? If inside, do it. If outside, do it. The prime conditions of successful wintering (including the spring) are first, a good queen; second, plenty of wholesome stores; third, the proper temperature, and fourth, pure air. The latter is not generally regarded as of much importance, but it *is* for all that. The bee-keeper who thinks himself and family can get on very well on foul air without ventilation, will be very apt to think the same about his bees, that is, if he thinks anything at all about it. The foul air of unventilated cellars causes sickness in families as well as ill-health among the bees. While there was a difference of opinion as to inside or outside winter-

ing, there was none as to the wisdom of packing bees in the spring after they are set out of the winter quarters to protect them from the chill and cold of spring right up to the warm weather. The importance of this matter is too much overlooked by bee-keepers. None but the very strongest colonies will come out in good shape for the honey flow without strong protection. There is also the risk of chilled brood and dead brood, which may result in foul brood. I know from experience that it pays well to pack bees in spring, especially those colonies to be run for the light comb honey, which you must be ready to take when it comes or be left. Sawdust, shavings, chaff and even straw will answer the purpose, filled in between an outside skeleton and the hive, with a liberal supply on top in the absence of quilts or cushions. Of course, where chaff hives or double-wall hives are used, the lateral packing is not required only in exceptional cases. The question of packing for double-wall hives received a pretty thorough sifting by the meeting. The consensus arrived at was, that cork shavings were best, while it has been accidentally discovered by one of the members that wood ashes were as good as anything. If they are they will soon become popular for that purpose, as being so cheap and generally available.

Selby, Ontario.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

	PUB. PRICE.	BOTH.
American Bee Journal,	(\$1 00)	\$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(75)	1 15
Gleanings in Bee Culture,	(1 00)	1 35

Putting Bees Into Winter Quarters.

BY, M. H. DE WITT.

It is usually during this month that the severe weather of the season commences. When it once gets cold and has the appearance of remaining so, then it is time to put the bees into winter quarters, and not before. It is a mistake to put them into special winter repositories when the first temporary cold weather is experienced, as they soon get uneasy if it becomes warm; and it is advantageous to have them fly as late as possible. When putting bees in the bee house or cellar, they should be prepared just the same as those out of doors, except the packing. Use carpet or duck for covering the frames. If any stands are short of stores yet, fill an empty comb with syrup and place it in the hive. This can be done in pretty cold weather and disturbs the bees but little. The colonies left on the summer stand should have some kind of a wind break. If possible the apiary should be provided with a high, tight board fence. In removing bees from their summer stands they should be handled carefully, and the weather must be cold enough to keep them from flying. The temperature of the room to which they are consigned should be kept, as near as possible, at 40° Fahr. The bee-keeper may now rest easy if he feels sure that his bees have plenty of stores and are well protected from the severe cold winds and weather. I would say to all, don't neglect your bees and think that you can supply them with stores later on, for just as sure as you do they will run short of stores and starve when it is so cold you can do nothing with them. Anoth-

er good way to do, if too cold to feed them syrup by either of the methods described, and they are still short of stores, is to make candy as follows: Take coffee A sugar, pour sufficient water upon it to dissolve, then boil until it becomes a thick syrup. Now cool and stir and it will become white and solid. Mould into cakes about the size of a brick and lay it on the frames over the cluster. This is given as the last remedy, but it will keep them through until better stores can be safely fed. But above all do not unnecessarily disturb your bees, as it causes dysentery, which if commenced at this period means certain death to them before spring.

Now, dear bee-keeping friends, my instructions as above given are necessarily brief and should you desire any further information in regard to the pursuit it will be gladly given at any time. I am very much interested in seeing our friends successful in this branch of industry, and am delighted if in any way I am able to assist them to attain this end.

There will be no fall flow of honey in this vicinity, as the wet weather has made it a complete failure. The white honey harvest was good. Most of our friends averaged 60 to 70 lbs. per colony, and sold it at a good price.

Sunny Side, Md.

What I have Observed, Etc.

BY T. K. MASSIE.

The box hive brethren "rob" their bees in June or early part of July. The head is then nailed on tight and daubed around with mortar. The bees also go "chinking" up the cracks and crevices on the inside with propolis, so that by the time

cold weather comes on the hives are just about air-tight and upward ventilation is an impossibility. The sealing of propolis is not broken in the fall to remove pollen or for any other purpose. The bees as previously stated, come out strong and healthy in the spring. From these facts I have drawn the conclusion that the pollen theory and upward ventilation cut no figure in the winter problem in my locality. It may be said that the box hives have the larger entrance, and therefore more ventilation at the bottom. True; but this is easy to remedy, and, it seems to me Dr. Tinker is a long step in advance in this respect by this arrangement for ventilation his hives through the bottom of his winter case.

Now if we place a thin board down solid on the top bars of our brood frames early enough in the fall for the bees to glue up the crevices and thus prevent all air currents from passing up through our hives we again get even with our box hive brethren, and where we prevent all radiation of heat by placing a cushion on top this board the same as we do the side, and further, in spring and early summer when we give our bees just the ventilation required by raising this board we are another *long step* ahead of them. This board should be thin so that it will warm through quickly when we remove the cushion and let the sun's rays strike it. It is just as good, or better, absorbent of moisture as the Hill's device or sticks and chaff cushion.

It may be claimed that we must use the device or sticks to give our

bees a winter passage *over* the top bars of our frames. This is a great mistake. For the last two winters my nearest neighbor has successfully wintered his bees with no other protection than the enameled sheet. This winter (just passed) he wintered a number of colonies in a single simplicity brood chamber with enameled sheets glued down tight to top bars, with no winter passage unless caused by burr combs, and protected from the weather by a simplicity cover—*nothing else*. A few days since I was talking with L. L. Hearn, the originator, introducer and noted breeder of the celebrated "Golden 5 Banded Italians," and in speaking of his heavy losses this winter, incidentally mentioned a weak colony, which last July, had an unprolific queen. He destroyed the queen, gave them a queen cell, and placed an enameled sheet over them and left them. In packing his bees for winter he placed burlap over them (but neglected to put any chaff on them), except this one hive which was overlooked and left all winter with no protection other than the enameled cloth. Twenty-five packed as above died—every one of them. In overhauling his bees in March this one was again overlooked. About the first week in April he discovered bees working in this hive and was surprised to find, on examination, that this hive was strong with bees and had plenty of honey. Here was a hive that had wintered well with no protection, which friend H. expressed as something strange. The facts prove to my mind that bees winter better when upward ventilation is prevented, and that passages *over*

bars is not a mistake. They should have a passage way but it should be *through* the top bars, not over them; and with frames made thus, the device, loose sticks, etc, are a nuisance. But when hot summer days come, and the bees in box hives, sealed airtight as above stated, begins to "lay out" in large clusters our box hive brethren are placed at a great disadvantage. This "laying out" is taken as a "sign" of swarming, but after a week or more when the cluster increases to a good sized swarm, not even going in on accounts of rain, the "notion" is taken that the bees are "too rich to swarm." The head is pried off and the bees "robbed." After the "robbing" the bees go to the inside and resume their work. Then the owner "knewed" his "notion" was right. 'There was so much honey in that, 'gum' that the 'king' drove the bees out so the drones could have a chance to lay eggs.' So far as it relates to being "too rich" to swarm, this "notion," in some cases and to some extent, may have been true, as too much honey in the combs would curtail the egg laying privilege of the queen, because of want of room, but I have drawn the conclusion that this is seldom the case, and in *all cases* the foul stagnant air in the hive was so stifling to the poor bees that they were forced to the outside to get a "fresh breath," and to keep the brood from being smothered, and when the head was taken off the sealing of propolis was broken so the air currents could pass up through the hive, giving sufficient ventilation as to enable the bees to return inside and go to work.

I have observed that the 10-frame L. hive is both too large and too small.

A strange circumstance, I admit, but for my locality such is the case. It is too large to manipulate without a great deal of labor, and too small to furnish the queen with what comb space she could occupy and keep full of brood in the early part of the season, just when I need it to build up my colonies for the locust, poplar and white clover bloom. They are also too long and too wide for their depth, giving combs too shallow, or as I term it, giving us a hive that is not properly proportioned to meet the requirements and natural instincts and inclinations of the bees, causing too much lateral spreading of the brood nest.

This is one reason why the bees in box hives keep so nearly up with my bees in the chaff hives. I have transferred bees from box hives built solidly full of combs that contained twice as many cubic inches as one brood chamber of the Simplicity hive, (which is about the same as the L. hive), and generally obtained enough brood to fill ten Simplicity frames with some scraps left, which I had to place over the honey board to hatch out, and I invariably found that the same queen failed to keep the ten L. frames filled with brood, when placed in the brood chamber of a Simplicity hive. About eight frames was all I could get them to keep filled of brood. I have taken the centre frames of brood and placed on the outside of the brood nest, but as the young bees hatched out the queen would neglect to fill them up with eggs.

About the first of June, 1889, I transferred a colony from an extra large "gum." It was full of comb and I obtained more than twelve Simplicity

frames full of brood. I was elated and thought "now I have a queen that will keep the ten frames full of brood," but to my surprise, the result was the same as before, only about eight frames occupied by the queen. "What could the matter be?" I asked of myself. Here was a "gum" containing about three times as much comb space as the Simplicity body, and here too was the same queen that kept the equivalent of more than twelve frames full of brood while in it, and only able to keep eight filled when placed in the Simplicity hive. Honey was coming in at a good rate, but most of it was stored in outside brood frames instead of in the sections. Now, why this falling off of $\frac{1}{3}$ in brood rearing? I measured the comb. The diameter was 18 in.; just $3\frac{3}{4}$ in. greater than my Simplicity is wide, and one inch greater than the comb in the Simplicity frame is in length. Certainly not enough difference in size to cause so great a difference in brood rearing.

But how about the length? I measured again and found the length nearly 25 in., nearly three times the depth of the combs in the L. frames. Therefore, I have drawn this conclusion, that the only secret about it was, that the "gum" was better proportioned to meet the requirements and inclinations of the bees, and that in the L. hives the bees could not give me their best results on account of not having a hive that fully met their needs.

Concord Church, W. Va.

(To be continued.)

We send a large number of sample copies to our friends this month. Every one who receives one and is not already a subscriber is earnestly requested to send 50c and receive the BEE-KEEPER until January, 1893.



W. T. FALCONER MAN'F'G CO.,
Gentlemen: Your thin wall hive is very similar to the hive I have been using some years in one of my apiaries. My place is greatly exposed to cold winds in spring and autumn, and no other hive will suit. You may remember having made a number of thick double wall hives for me about five years ago, the "Cowan" hive, and we both agreed it was useless to have the walls so thick. Packing should suffice for winter, and in summer a continuous draught keeps the inside hive cool. I have had bees in these hives for over seven years and have not yet had a swarm from one of them, and the cool, comfortable condition of the inside hive in summer has a great deal to do with it. I tier them up sometimes to four stories high and 44 frames, English standard size for extracting, and fill them up from top to bottom with bees and honey, and our hives frequently give us a cwt. of it, and this in our very short and intermittent flow. One good to two or three bad days is considered a good return here.

I have not yet heard a phonograph. The telephone is in operation in all large stores in Limerick, but are not the late advances in the knowledge of bee-keeping quite as wonderful? "Parthenogenesis," all male bees, virgin born, and a queen to lay 3,000 eggs a day and keep it up during the season. It is all pushing on to the

time when the great Creator will receive the credit and honor due Him of all men; the time of universal brotherhood, when each and all of us will lend a hand in their own way to that highest aim of our own existence.

I fear we shall not have much business in the appliance trade next year. Large stocks of supplies are on hand here, in North England and I believe in Scotland. In south Ireland the honey crop has been only half the average, and this following a total failure last year has been too much, except for those of us who like bee-keeping for itself and live in hopes of better days. Sincerely yours,

WM. BOXWELL.

*Patrickswell, Co. Limerick, Ireland, Oct.
3, 1891.*

[Yes, friend Boxwell, we remember making the hives you mention, but they were much more expensive than our new thin wall hives and cases. In milder climates we do not think there is any use of packing at the sides with them. Where the winters are quite cold, and where there are apt to be long spells of cold weather, the double wall hives should always be packed at the sides. Almost anything fit for packing can be used, either put in loose or in form of cushions.

Yes, indeed, the late advances of bee culture have disclosed things to us even more wonderful than the phonograph and telephone, yet we have much more to learn.—ED.]

ED. AMERICAN BEE-KEEPER: I thought I would write you a short essay and criticism. I have written but little on bees. I have concluded to write on

WINTERING.

It has been demonstrated that the successful wintering of bees is not luck, as our fore-fathers supposed, but

the fruit of care and judgment. Every climate and location has its own best method. That which would be best in one climate or condition would prove fatal in another. Reading the advice given in our different bee papers the novice wonders at so many "best methods," without giving thought to the different climates and conditions. A climate so rigorous that it generally does not give any days warm enough for a successful flight, would undoubtedly be best suited to in-door wintering, while a climate that seldom has many steady cold weeks would be best suited for out-door wintering.

The next to be considered is dampness of climate. What will be successful covering in one location will prove destructive in another. The way S. P. Hardee wintered his bees successfully, would here in northern Ohio have killed every swarm by dampness and mould. I once had a fine colony in a common box hive which contained over 100 lbs. of honey. I made a box to cover the hive entirely, all but the entrance, leaving about a 4-inch space which I filled with chaff. It proved to be one of our long, rainy winters, and in the spring the hive was all mouldy inside and sour, and the colony fell an easy prey to other bees. Had it been a cold, dry winter they would undoubtedly have wintered successfully. In this latitude, where warm spells are frequent in winter, I think out door wintering saves less trouble.

The Root chaff hive is a very good, sure one, and also the Cleghorn hive, which has chaff the first story and single wall second story. The chaff on sides of hives is made to take out and in like a frame, and sets $\frac{1}{2}$ inch in

from the side wall and $\frac{1}{2}$ inch above the bottom board, giving a space for damp air to escape.

The next thing of importance is to manage the dampness caused by the breath of the bees and by cold air being condensed in coming in contact with the warmth of the bees. The hive just described manages that the best of anything in my experience. The next best is to lay a cake of candy one inch thick on the top bars large enough to cover the cluster. This takes up the moisture and is converted into the best food on which to winter bees. Never use any metal where bees cluster. It will be too cold and condense too much moisture. Let him who recommends the tin passage-way for bees in winter sleep under a tin sheet some cold night. Good judgment and common sense will winter your bees, but he who uses advice without common sense will reap a fool's harvest. A. FARMER.

Florence, O., Oct. 9, 1891.

ED. AMERICAN BEE-KEEPER, Dear Sir: I am pretty late in sending in my last winter's report, but this has been the busiest year I have passed in a long time, and even now, upon the eve of another harvest, I find no time to rest. That is the way it is with the Cuban bee-keeper. There is no season of rest. For 52 weeks and almost 365 days in the year it is all business with him, or suffer loss from neglect. But this year I have had a double dose, building and putting in a steam extractig plant. The latter is now in position and works to perfection. The extractor is a 25 frame machine built by Mr. Newcomb, of Pleasant Valley, N. Y. The dimensions are about as follows: Reel 7 ft. 3 in. in diameter. The arms

that support the comb are $\frac{3}{4}$ in. square steel and fastens securely at top and bottom. There is a brake wheel 20 in. in diameter and 3 in. face, and bevelled gear. The horizontal shaft is $2\frac{1}{2}$ in. round steel, with two pulleys 14 in. in diameter, one tight and one loose, 6 in. face. The extractor without the can weighs 1,540 lbs., and the can 1,730 lbs., so you see it is no toy or plaything, nor will it break every time I get in a hurry. The engine is a 3 h. p. Bookwalter, built by the James Laffel & Co., Springfield, O.

Why all this expense to extract honey? Simply to get the honey out of the combs, a thing I have never been able to do yet by hand. I could not do it myself, nor could I hire men to do it. I have as good men as ever turned an extractor, but they could not extract honey to suit me, *I want honey gotten out of the combs*. That is what I take them into the honey house for, and I do not wish to carry them back into the apiary with so much honey in that the bees will seal them over again without putting another drop of honey in them, as I have had them do by hundreds and hundreds. That is not business to suit me. Now I am going to try what I can do with steam. My extractor will make 240 revolutions a minute, and will travel about 23 ft. to the revolution. At that speed I think I will get the honey out. Last year, or the last crop, I succeeded in getting 73,100 lbs., but I know we did not get near the honey that we would if we could have gotten it all out of the combs.

Now this idea of fastening the top of the upright shaft securely so that it cannot move is original with me, as far as I know, but I think you will

agree with me that it is the correct principle when you think that it will make little or no difference how you load the extractor. If light combs are in one side and heavy in the other it cannot wobble and twist and shake all over the room. When I first set it up I put 40 lbs. of wax in one side and nothing at all in the other, and run it at full speed, and it did not even tremble.

Such a condition of things is what I have been looking for for many years, *i. e.*, an extractor that I could load with combs just as I came to them, and not be obliged to select and place them in the machine just so, without making it next to impossible to keep the extractor in the building.

When I wrote you in Dec., 1890, our prospects were very flattering for a large crop of honey. But six days after I wrote you, the cold wave from the north-east struck us, and for 47 days it was the coldest weather I ever saw in Cuba. That brought us to the 27th of Jan., and our season for the white honey flow was practically gone, but our bees were strong, hives full to overflowing, and the spring flowers yielded well, and by our having such a large force of workers they stored a vast amount of honey, which helped us out with a very fair crop. This last spring's result should go a long way in proving the truth of what I have been telling the world at large, that there is no such thing as overstocking here for at least ten or eleven months in the year.

What have our bees done this summer? Well, we have had 600 colonies and they have come through the summer in fine shape, until the 26th of Sept., when we had 500 lbs. of old

honey in the tank. We got some water into it last spring when we were building and had one side of the house torn off. We naturally wanted to clean the tank for the new honey, so we put on about 35 feeders and poured in that sour honey. Such a time as it made. The bees left their hives, honey and brood, and all the *larva* to which was fed any of the sour honey died. It played havoc generally. It is no use to tell us better than to feed sour honey, for we know all about it.

Honey is flowing good now and increasing all the time, so we are out of the woods once more, with more bees than I ever had at this time of the year since I have been in Cuba. We have now, and have had all summer, one-third more bees than we had last year, and next spring we expect to put 100 colonies more into this apiary, making in all 700, and I don't expect to cry "overstocked" either.

Yours, &c., A. W. OSBORNE.

Punta Brava de Guatia, Cuba, W. I., Oct. 9th, 1891.

[We are very glad to hear from you, friend Osborne, and of your success. You have doubtless the largest steam extracting plant in the world, and we think you will probably save enough honey with it to pay for it in a few seasons. If the honey flow here was as sure and abundant as in Cuba there would be almost as many bee-keepers in every State as there are now in the whole country.—ED.]

EDITOR AM. BEE-KEEPER, Dear Sir: On page 155 you quote from the *Bee-Keeper's Magazine* as follows: "The bees should be set out and left to fly once or twice during the winter." I believe nearly all bees in Iowa are wintered in the cellar, and we have been taught by the "old heads" that

carrying them out during the winter to fly was not only unnecessary but positively injurious. We carry them into the cellar in Nov., tier them up five tiers high if necessary, leave the bottom-board out doors, put not less than an inch piece under each and to give plenty of lower ventilation, put a bee quilt over the bee frames to retain the heat and allow the moisture to pass off by means of ventilating and a stove; keep the atmosphere at 40 to 45 degrees above zero, and let them alone until about the time of soft maple bloom, and ordinarily we will not lose five per cent. when set out, in a single wall hive. We set them out in single wall hives and uncover them down to the quilt from 10 a. m. to 4 p. m., and we have very little spring dwindling.

In April or May bees need all the sunshine they can get to warm them up to stimulate brood rearing. For ten years I have not carried out a hive of bees to give them a fly in the winter. The difference in the amount of honey consumed will more than pay for carrying in and out of the cellar, besides, with me, it does not take more than half the time it would to pack them and clean up in the spring.

O. B. BARROWS.

Marshalltown, Ia., Oct. 9, 1891.

[When bees are wintered in the cellar they should never be disturbed until ready to move out in the spring, for as you say, it causes them to consume a greater amount of their stores, and is apt to result disastrously.—ED.]

ED. AM. BEE-KEEPER: Why are the one-story chaff hives to take the Langstroth frame not the best hive for all purposes that are in use today? I would like to ask some of the older bee-keepers' reasons for not using the

one-story chaff hive more than they do? I am a bee-keeper of but a few years' experience, but have used all the different makes of hives which take the L. frames, and will give you my reasons for preferring the one-story chaff hive. First of all they are the cheapest. They winter bees just as safely as any. One man, if necessary, can handle one alone, and the best point of all is, when you wish to handle your bees you are on a level with your brood frames. Above all things, I do not like to stick my head down into a two-story hive on a hot day and run the risk of being stung. I find that a person's breath blown on bees will anger them as quickly or quicker than almost anything else.

I almost believe that the one-story chaff hive, or almost any other double wall hive, is better without chaff than it is with it. I have some in use without packing, and if there is any benefit in using them that way I will report through the BEE-KEEPER.

I told you before that I was just a beginner in the bee business. I have adopted the one-story chaff hive and L. frame. I do not think with what few bees I wish to keep I shall change, but in my short experience I believe the L. frame the poorest frame to winter bees on there is in use, unless the hives are set on end. H. D. BARKER.

Fowler, O., Oct. 10, 1891.

THE W. T. FALCONER MAN'G CO.,
Gentlemen: Please send me some catalogues and order sheets. Your Thin Hive and Outside Winter Case is the "boss." They are the cheapest and best I have yet seen. Your goods are always first-class and give entire satisfaction. Yours truly,

R. W. HIGINBOTHAM.

Morris X Roads, Pa., Oct. 2, 1891.



UNFINISHED SECTIONS.—WHAT TO DO
WITH THEM.

What is best in all cases to do with unfinished sections is a problem not easily solved. During the early and main part of the harvest we have been in the habit of taking them out of the super as soon as they are removed from the hive—that is, the supers that are taken off to-day are taken to the honey-room, and to-morrow each super is emptied, the unfinished sections put into a fresh super, and given back to the bees as soon as possible. Taking out the unfinished sections is not as much work as you might imagine. The supers are inverted, and by means of a push-board the sections are all removed at once, or, rather the sections are all held down by the push-board, and the super lifted off. Generally only the corner sections, at this part of the season are unfinished, and these can be picked off without disturbing the T tins. After the unfinished sections are all taken, the super is inverted over the sections, pushed down in place, and the unfinished sections are back in the super all right. To avoid such a catastrophe as the sections tumbling out while the super is being inverted, it is necessary to have a board under the super to be inverted with it. If desirable, the vacancies can be filled with finished sections, a whole super of such being occasionally emptied for that purpose.

So far we could probably do better.

But later in the season comes the difficulty. The sections are not finished as quickly; in fact, you are not sure whether they will be finished or emptied out. You hardly know whether to give them a whole super, only half a super, or whether it is best to clear everything off when the harvest begins to lag.

If we leave any thing on, I think we have generally the best success in giving only twelve sections at a time. They finish them more quickly if they work at all, and the honey is not darkened as it is apt to be when they work slowly and too much is given at a time. If they don't finish them your sections are better off than on; and by using 12 instead of 24 you are likely to have only half as many unfinished sections at the end of the season.

Of course this does not apply to localities where there is a good crop of fall honey, unless it be towards the close of the fall harvest. Still, it is an open question whether it is best to put on 12 sections, or clear every thing off as soon as the harvest begins to lag, and trust to extracting if the brood-chamber becomes too crowded. Different seasons require different management. This year we put on 12's and had our labor for our pains, or nearly so, as very few sections have been finished. Although a few colonies have stored a little, the most of them have left the sections just as they were when we put them on, and a very few colonies have done some emptying out.

When it is decided that bees can not be induced to do any further finishing, what then? Is it best to extract, or to sell at a sufficiently low price to find ready sale? I suspect it is pretty safe to say that sections having only a small amount of honey in them are best fed back to the bees.—*Emma Wilson, in Gleanings.*

BEES AND THE FARM.

In an introductory way it might be well, if we had time, to glance at the sentimental side of the relation between the home and the honey-bee, but I will omit it for more important matters. It is too often the case that this side of important questions are left in the back-ground. It would be folly for me to ask anyone here if they would keep house without a few colonies of bees on the lawn, or near the kitchen-door.

It is not only a fact that thrift, industry and ingenuity are characteristic traits of the inmates of the hive, but the presence of the homes of our busy little friends near our habitations imparts to us these elements in manhood or womanhood.

You never saw a lazy or stupid person succeed with bees. The bee-fever may sometimes get into the system of a lazy man, but after the first attack it leaves him in a seven-fold worse state. The successful bee-keeper is an industrious person, a mechanic, a botanist, a producer, a good salesman, and rarely a scamp. He gets these traits from the hive. He can even get his religion from it.

We are in times now that plainly show that industrial conditions are going through a most radical change, and the farmer, his methods, and his farm, are going rapidly in the same direction. The old farm routine will be a thing of the past—if it is not the farmer sees plainly that his ownership will be. We find, in looking around that the hive is being placed on nearly every farm. The question then comes up, is every person going into the bee business? And the more serious question follows, what are spe-

cialists and bee-keepers going to do if a well-regulated home apiary is placed on all the best conducted farms, and bees become as common as poultry?

Let us look beyond ourselves and see what the bee brings with it, as it finds its place on nearly every farm. It will make farms more home-like, and cement home ties. It will throw another gleam of light across the hard beaten path of drudgery, it will give fire-side entertainment, it will place one of the rarest delicacies on the farm table to take the place of that glucose article that should find no other place than in Willie Watson's soup for his Doddies.

We are aware of the fact that the extensive popularity of the honey-bee is, from his standpoint, viewed with alarm by the specialist. And it is alarming to him to see his favorite pursuit thrown into the hands of so many, and in so short a time. I am of the opinion that no specialist or bee-keeper need be alarmed—it will only be a blessing to the farmers, and eventually be a boon to bee-keepers.

It never hurts a business or pursuit or commodity to popularize it. Popularizing a commodity can, but does not, always lead to overproduction. If honey is popularized in the same ratio as there is an increase in bee-keeping, the consumption will be greater, and there will be in no measure enough of the product for the demand, unless it be a chance year now and then.

But if this is the case, the product is of such a character as will admit of its being kept for a long while. A honey crop is as uncertain as a potato crop, but in years of plenty and overproduction, it is as good as old wheat,

and is as safe as that old staple to get money advanced on. Another objection is, that these cheap producers will bear down the market by trading out their cheap honey at the stores, and this will destroy the honey market.

This is not so formidable as it might seem on the surface. Cheap honey means large consumption, and when the price gets very low, it is bartered between farmers at a low price and the low prevailing price in the markets has popularized the product, and if the specialist has had wisdom enough to hold back his crop, he can then get a good price for a good article. If the appetite has been sharpened by a poor article, the public will give a good price for a good article rather than do without it. I have made a study of this market question in the sale of fruits, and know well how it works, and the question of overproduction is a more serious one in horticulture products than in your line of work.

In one town of less than 2,000 inhabitants, six years ago, we found less than 30 bushels of small fruits, and the present season the amount consumed was over 400 bushels. This does not include the grapes, of which there will be between 8 and 10 tons consumed, if the prevailing price is $2\frac{1}{2}$ to 3 cents per pound. The consumption was less than half a ton 6 years ago.

This increase has occurred in the face of a decreasing population. The growers find that the extensive use of fruit in towns is popularizing it in the country, and that a rapidly increasing country trade requires more extensive planting. It

will be just so in the future in the production of honey, and when farmers keep bees, and it becomes general for the consumption to be from 100 to 1,000 pounds of honey per family, there will be as great, if not a greater, demand for honey, than there is now.

So, if in looking around for a diversity in their farm work, they conclude to take up the smoker and put on the veil, we think there is no reason for alarm. The farmer owns the pasture, and he certainly has the first right to fill it with occupants. If the agriculturist is tired of the sorghum field, and an inferior sweet, and concludes he will quit lugging heavy cane and skinning the molasses pan and takes up the veil and smoker, he is going to sow forage crops for the new kind of stock he places on his premises, and this will result in better bee-pasturage, which will be a big advantage to the specialist. So the specialist, with superior knowledge and defter skill, will have the advantage, and we think that if viewed in the proper light, it will an advantage to everybody in any way connected with apiculture to have bees occupy the same place on the farms as poultry does now.—*W. M. Bomberger.*

HOUSE APIARIES AND BEE ESCAPES.

This is the subject I have wished to see discussed. My idea for the past three years has been that a warm house apiary would be the most practical place for wintering bees here in the North. A fire could be kept in cold and damp weather, thus preventing moisture in the hives. No paint would be needed on the hives, which according to the experience of some, would prevent dampness. It would lessen the cost of the hives also. Cheaper and lighter lumber would be used; no stones would be needed on the covers, and no shade boards to make and use. Hives would not blow over, but would always be level.

Bottom boards should not be fastened on, for when swarms issue I would wish to hive them on the stand they

came from, setting the old hive with the queen cells on top, with a queen excluding honey board between it and the swarm, and in about twelve days after, or when I knew the queen cells had hatched and had been destroyed, I would remove the top hive with virgin queen to a new stand.

If sections are given the swarm, a bottom board with a three-quarter inch hole through it and a piece of excluding zinc over this must be placed between the sections and the top of hive.

I think, though, that I would not allow much swarming, but give or raise young queens before swarming commenced, or divide as seems best.

I think hives should be set in pairs, placing two close together and leaving a space of eight or ten inches between these and the next two hives, thus giving room to adjust, remove and replace cases. A cone escape placed in front of each pair of hives (through the wall) would probably be all the escapes needed.

Here is my way of using bee escapes; I use flat covers the same size of hives in length and width. I make a rim of this size, one or two inches high, placing a cone escape in or near one corner; remove the surplus cases, smoking the bees down partly, putting on other surplus case at once, and replace the cover; now place the rim on the cover with the cone coming to the front end of the hive. Set on the cases removed, putting on cover and shade board, and in two hours time the will be practically all out of them. I have only used a single cone. But robbers bother some in a dearth, so that perhaps a double cone would be better. When honey is plenty, no robbers bother and bees come out promptly, except the few very young bees. It is on the same principle as Manum's escapes. By this means the colony is disturbed but once, as the cover is put in place and left there when removing cases.—*C. E. Boyer, in Bee-Keeper's Review.*

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EDITORIAL.

As promised last month, we begin in this number of the BEE-KEEPER a series of articles by T. K. Massie, which will be of unusual interest to beginners in bee-keeping. The first installment appeared in the May number of the *Bee World*, in which the author takes the opportunity to state that he regards the large and cumbersome chaff and other permanently packed hives, loose hanging frames with $\frac{1}{2}$ in. space between the end bars and inside of hive, swarming boxes, Hill's devices, loose division boards and other similar loose "rattle traps," as nuisances. He thinks that space is about as good as packing, and concludes that the thin wall hive with outside winter case, packed on all sides, with a cushion made of felt and filled with some non-conducting material is the best. On warm, sunny days through the winter and spring the case can be removed, the cushions taken out, aired and warmed, thus giving the sun and air full force and play on all sides and

even into the top, thoroughly warming, drying and purifying the hive.

Mr. Massie's article in this number is somewhat lengthy, but consists of the installments for the June and July *World*.

Probably the greatest offer ever made by any publisher in this country is the one made in this issue of the BEE-KEEPER where we propose to give a set of Gen Grant's *Memoirs*, the *Cosmopolitan* one year and the AMERICAN BEE-KEEPER one year for only \$4.00. The *Cosmopolitan* alone is well worth the subscription price, \$3.00, and every subscriber will be pleased with it. The books are the same that we paid \$7.00 for about three years ago. Take our word for it, this is a chance you can never have again, to almost get something for nothing.

One of the most contemptable acts of which an editor can be guilty, is to appropriate from his contemporaries, meritorious articles and palm them off as original by failing to credit them to the journals from which they were filched. This has occurred several times with articles which have appeared in the BEE-KEEPER, and for which we have paid a good price. The last offender is the *Canadian Bee Journal*, who reprinted from our October number the address on "New Uses of Perforated Zinc Excluding Boards," by F. H. Cyrenius, and fails to give us credit for it. If this had been the *Journal's* first offense we could have overlooked it, but it was not.

We have a large number of subscribers who are in arrears from one to six months, and we wish each one would endeavor to pay up promptly. When we began publishing the BEE-KEEPER we stated that we would notify each

subscriber at the expiration of his term of subscription by a blue pencil mark on the paragraph at the head of the editorial page, and then if no attention was given the notice we would continue sending the magazine to him six months, and then would notify again and stop sending. We hope every one who receives a card will remit at once and advise us if they wish us to continue mailing the BEE KEEPER to their address.

Our subscription list now embraces that of the *Advances*, the *Bee Hive* and the *Bee World*, besides all the new subscribers which we have obtained by liberal advertising and otherwise during the past year. Advertisers should take the above into consideration when they are ready to place their advertising for the coming season. By the way, the proper time to begin advertising is now. A much greater benefit will be reaped by those who begin early than those who wait until the busy season is here, when no one has time to write for prices, circulars etc.

"The *Bee World* has merged into the AMERICAN BEE-KEEPER, of Jamestown, N. Y. The latter has a great capacity for swallowing up its contemporaries. It has already taken the *Advances*, the *Bee Hive* and now takes the *World*. Will 'the World' satisfy the Falconer Co.?"—A. B. J.

No, friend Newman, we are not quite satisfied, and if you wish to dispose of the A. B. J. we are open to inducements.

Last month we had a dearth of correspondence, but this month we have more than made up for it. Our letter from Cuba will open the eyes of some of our readers as to the capabilities of the "busy bee" in the southern climate.

We regret to learn that The D. A. Jones Co., of Beeton, Can., has been compelled to go into liquidation, and will cease operations. Mr. Jones will continue the publication of the *Canadian Bee Journal*, however.

We have just received from Chas. C. Hardy, of Burr's Mills, N. Y., a 48-lb. case of the finest basswood honey we have ever seen. Mr. Hasting's bees furnished him with about 6,000 lbs. this season equally as good.

Next month we will publish a complete index of Vol. I. The December edition will be a very large one, and advertisers will do well to send in their copy early to get a good position.

TO OUR CUSTOMERS.

The "signs of the times" already point to a very busy and prosperous spring season, and it will behoove everyone to look over their stock of supplies, and if there is anything needed that can possibly be ordered this winter, we hope you will not hesitate to send in for it as soon as possible. This month is the last one in which we can allow 5 per cent. discount. The discount for Dec. will be 4 per cent.; Jan. 3 per cent.; Feb. 2 per cent.

Our goods the coming season will be made from the very best materials and in the best manner. We have all the latest devices in machinery, and we are now at work constructing a machine for making one-piece sections, which will enable us to produce better sections than we have ever made heretofore, and with our immense stock of dry and white basswood, there will be no liability whatever of our sending out an inferior article. Those of our customers who last season received from us sections or other goods that were not up to our usual excellent standard are especially invited to favor us with a trial order. We are sure we can please you.

Our new illustrated catalogue for 1892 will be mailed you sometime in January. It will be larger and more complete than ever.

The December number of LIPPINCOTT'S MAGAZINE is a special Southern number; all the contributions are from well-known Southern authors. The complete novel is written by T. C. De Leon, author of "Creole and Puritan," "The Puritan's Daughters," "Four Years in Rebel Capitals," etc., and is a stirring tale of the Civil War, entitled "A Fair Blockade-Runner." It is well known that some of the most daring blockade-runners during the war were Southern women. Mr. De Leon makes one of these women a beautiful, brave, and captivating girl, the heroine of his story. The tale is replete with exciting adventure, and has a dash and go about it which insures its success. Subscription price of *Lippincott's* with the BEE-KEEPER one year \$3.

PROGRAM of the North American Bee-Keepers' Association, to be held in Agricultural Hall, Albany, N. Y., Dec. 8 to 11:

Dec. 8.—Informal meeting. First day, Wednesday, Dec. 9, 9 a. m.—Presidents address, P. H. Elwood, Starkville N. Y. Appointment of committees and routine business. Question box. 2 p. m.—The prevention of swarming, W. F. Clarke Guelph, Ontario, Can. Discussion. Question box. 7:30 p. m.—The Outlook for Apiculture at the Columbian Exposition, A. B. Mason, Auburndale, O. Discussion.

Second day, Thursday, Dec. 10, 9 a. m.—Election of officers. Selection of next place of meeting. Business of the association. Volunteer contributions. Discussion. Prices of honey and sugar. 2 p. m.—Can we settle upon two sizes of sections as standard? C. C. Miller, Marengo, Ill. Discussion. Question box. 7:30 p. m.—The bees, the location, and the apiarist, G. M. Doolittle, Borodino, N. Y. Discussion.

Third day, Friday, Dec. 11, 9 a. m.—The Italian Bees: What are the principal points of excellence, and to which qualities should we give the preference? G. W. Knickerbocker, Pine Plains, N. Y. Discussion. Question box. 2 p. m.—Some facts not generally known about rendering beeswax, R. F. Holtermann, Brantford, Can. Adjournment.

The *Cosmopolitan* magazine is one of the best \$3.00 monthlies published. It has numerous beautiful illustrations, and is full of articles written by the best known writers of the day on all sorts of subjects, scientific, philosophical and literary. Regular subscription \$3.00 per year, but we will send it

with the AMERICAN BEE-KEEPER for the above amount, or with the Grant Memoirs, (worth \$7.50), for \$3.50. Address, The AMERICAN BEE-KEEPER, Jamestown, N. Y.

The FIRST 25 PERSONS

Who send us 50c for a years subscription to the AMERICAN BEE-KEEPER after Dec. 10th will receive free a copy of "**HOW TO MANAGE BEES**," a book worth 50c alone. It contains over 200 pages and is especially valuable to those who have recently begun in bee keeping. Any old subscriber who wishes a copy of the book can have same for 25c., post-paid.

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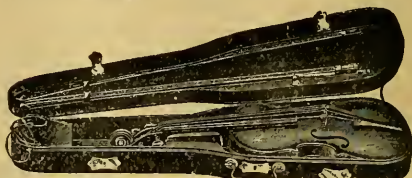
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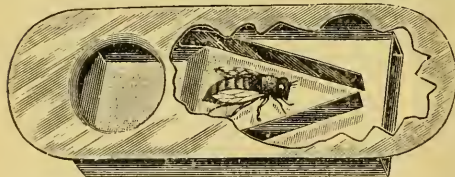
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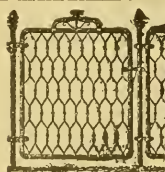
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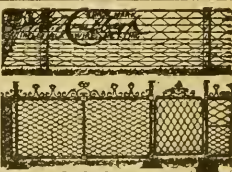


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VOL. I.

DECEMBER, 1891.

NO. 12.

Wintering Bees.

BY MRS. L. HARRISON.

What I have to say on this subject is for the benefit of those who are beginners, and have only a small number of colonies. My first experience in keeping bees over the winter was one which wiped out many large apiaries. I had only four colonies, and at the approach of cold weather they were placed closely on the east side of the house, and leaves stuffed all around, except in front, leaves being stuffed between the hives and the house, and between each other, and boards being placed at the ends of the rows and leaves between them and the hives. The upper stories were also filled with leaves. These colonies all came through the winter in fine condition, while large apiaries in this locality were nearly destroyed.

Several years later, when I neglected to protect my bees in this way, merely covering them with a chaff cushion, I lost nearly one hundred colonies.

Of late years I have wintered from fifty to sixty colonies in the cellar, which is 7x12 feet, partitioned off from the main one, and has sub-earth ventilators made of six-inch tile enter-

ing the cellar at the bottom. Before this ventilator was put in, honey stored there would soon be bursting from the cells, but now it does not, and I consider it as healthy as any room in the house. When the bees are put in there the hives are filled one above another, with pieces of board an inch in thickness between them. There is a window, hung on hinges, which can be opened at will. Bees have wintered for seven seasons in this cellar successfully, not being removed until all danger of freezing is past. I would not advise putting a few colonies into a large cellar. I have a friend who wintered four colonies in a very large cellar in this way. He built a cupboard in the cellar, beside a chimney, and put them in, closing the door. During mild days the outside doors of the cellar were opened, changing the air. The bees were in splendid condition in the spring.

WINTERING IN BARRELS.

I wintered for two seasons a few colonies as follows: I put on a "Hill's Device" above the combs, and then spread over new Indian head muslin, and fastened it to the hive all around by tacking on little strips of wood, and fastened up the fly entrance.

Then I dropped the hive into a barrel upon a bed of leaves, and stuffed all around it. Then I turned the barrel upon its side, so that the hive would be in the right position, with the barrel higher at the back. Then I uncovered their fly entrance. I enjoyed watching those bees all winter, for they seemed to be so very comfortable. If snow fell on the barrel it slipped off on the first approach of sunshine. These colonies were very strong in the spring. I give this experiment as a hint to those who have only a colony or two and are desirous of keeping them over the winter.

I have a friend in Northern Illinois, up on the lake shore, who winters her bees in the open air successfully. The hives are in rows, and a box resembling a wagon box, held together with iron rods, is set over them. This box has holes cut in front of every hive so to that the bees can fly out. When this is put on it is filled with leaves, so that the hive is entirely surrounded with them. A good roof protects them from dampness.

Peoria, Ill.

Ventilating Hives.

BY J. E. POND.

My experience covers over twenty years of time, and has been drawn from a constant series of experiments, the result being that I do not fear cold of itself, and that if the bees can be kept dry they will safely withstand any reasonable degree of winter weather. The sole secret, in my opinion, being, ample stores and freedom from moisture. I have always wintered on summer stands, in all sorts of hives, single and double walled, chaff, etc., and have not met, during the whole

time I have kept bees, with one per cent. loss, and, in fact, the only losses I have ever met with were my own fault, and owing to the want of sufficient stores to carry them through.

My experience teaches me that a large entrance is a necessity; that ventilation should be downward, and that when a hive is so prepared, that little, if any, moisture is retained, the bees are perfectly safe so far as cold is concerned.

My winter preparation consists simply in giving from one to two inches of space between top of frames and the cover, or mat; that is, I use only a piece of burlap, or old carpet, to confine the bees, at the top leaving not less than one inch of space between the mat and top of frames. On top of the mat I pack loosely five or six inches of forest leaves, or their equivalent.

This method of preparation, with ample stores, and a large entrance, carries my bees through safely all the time. If I am asked why, I should say, the excess of moisture is carried off at the top of hive; the ventilation is downward through the entrance, and this excess of moisture cannot be collected. This is not theory; it is practice. It is not an improved experiment, but a matter that has been tested over and over again, with like results in every case.

I prefer double walled hives as they do give protection, to a large extent, but I winter bees in single walled hives, with temperature 15° to 20° below zero.

Complexity has always been at war with simplicity, but when all learn that simplicity is king, then they will begin to accomplish great results.

North Attleboro, Mass.

Practical Hints in Bee Culture.

BY G. W. DEMAREE.

Any great success in honey producing always depends on an indefinite number of little successes. If we can imagine that our apiary of 50 colonies represent a great plant of 50 factories, every one of them being completely manned and equipped and capable of performing a certain amount of work, we can see how it is when one, two, three or more colonies become demoralized, right at the opportune moment and make a failure. The aggregate business suffers in proportion to the small failures.

If you prepare an apiary of 50 colonies of bees, of the best strains, for the honey harvest, you will have to manage them with more than ordinary skill, if more than ten per cent. of them do not waste their time and opportunities sulking in great clusters on the fronts of the hives, or by indulging in the opposite mood, refusing to stay anywhere long enough to settle down to business. Perhaps no apiary can be managed at all times so effectively as to wholly prevent loss from the causes I have named. But by a proper knowledge of the nature and habits of bees, the loss can be reduced within the bounds of reason. When I am in health, as a man should be, and am not too much crowded with work, as no apiarist should be, I can control, in a good measure, any colony of bees and put them in the harness and work them for all that is in them.

Sometimes a colony of bees will start off strong and lively, and the first thing you know they will begin to sulk and "pile" out on the front of the hive, and much precious time

is wasted. Now there may be more than one cause for this behavior, but the chief cause, or the cause that operates most frequently is a case of superceding of the queen. Sometimes the old queen will die suddenly just at the time when a swarm would issue under ordinary circumstances, and there is a "hanging of fire" as I would express it, because some eight or ten days more must intervene before the young queens begin to hatch out and become strong enough to lead off swarms. The proper thing to do in such a case is to go through the brood nest and cut out all the queen cells but one. This manipulation will four times out of five prevent all after swarms. But sometimes bees will act in this way while the old queen is living. When this state of things happens the old queen should be removed at once, and a queen cell given to the colony.

There is a freak into which bees are liable to fall that is exactly opposite to the mood just described. That is, bees will sometimes become unmanageably active at swarming time, and will refuse to settle down to business, no matter what advantages may be offered them. Such a colony is ready to "swarm," or to "swarm out" at any and all times, and no matter where they are while laboring under this excitement they will do no good. The remedy in this case is to take the queen away from the colony and give them a maturing queen cell, below the queen excluder, having raised all the brood above the queen excluder. I wonder sometimes, how many beekeepers have taken advantage of nature's friendly efforts to clear all obstacles out of the way, when a pro-

fuse flow of nectar takes place. We sometimes hear bee-keepers complaining loudly because the bees "crowded the queen." This is simply an effort on the part of nature to suppress brood-rearing at a time when the workers should be entirely free to bend their entire strength to the one essential end—the prompt reaping of the honey harvest. And again, when a swarm issues the parent colony has a respite from brood rearing, for eighteen or twenty days, and this gives the workers a chance to secure a supply of honey, an important thing which they could not accomplish in their weakened condition, if the usual amount of brood was on hand to be fed and nursed. If you will observe along this line you will discover that very few bee-keepers understand these friendly efforts of nature in extending, as it were, a helping hand to the workers right at the *time* for which all *times* in the bee interest were made—the *time of the honey flow*. If the workers lose this precious period of time, unlike the song of "hard times," "it comes back not again."

These are broad hints to the intelligent apiarist here, but it really seems that few are able to grasp them. I have noticed that when I have described my methods of working double colonies, the true gist of the thing has not been grasped by even a small majority of trained bee men. When I have described my method of putting the brood above the queen excluder, and hiveing the swarm below the queen excluder, after taking away the old queen and giving a queen cell in her place below the excluder, quite a number of innocent bee men have written me, proposing to *teach me a*

better plan, that is, the plan of giving the double colony a "laying queen at once," in the place of the queen cell.

How innocent some people are! Why sir, the essential feature of the plan is that part of the manipulation that saves the waste of time necessary to feed and rear a lot of brood right in the busy honey harvest. In the hives containing my double colonies there is plenty of brood to take the colonies over till young queens can be reared and mated. If young laying queens were given in the place of the cells, the manipulation would be worse than a failure. These "hints" are written to encourage experiment in manipulation of bees and bee hives. But it must be remembered that good, plain, well made hives and fixtures are necessary to profitable manipulation, and these may be had from The W. T. Falconer Man'f'g Co. I have examined their work and pattern of hives etc., and can freely recommend them.

Christianburg, Ky.

What I Have Observed, Etc.

BY T. K. MASSIE.

(CONTINUED.)

The cubic inches of comb space occupied by ten Simplicity frames, as I calculate it, are, as previously stated, about one-third the number contained in the gum. Two supers of sections take up $8\frac{1}{2}$ inches of comb in depth. Deduct this from the length of comb in a gum, 25 in., and we have $16\frac{1}{2}$ in. in depth for the brood frames, twice as much, lacking $\frac{1}{2}$ in., as the Simplicity hive affords, and it is almost equal to two Simplicity brood chambers. By experiment I find that I can get more comb honey by contracting to eight frames, but I am satisfied that any

good queen will keep more than the equivalent of 10 "L" frames filled with brood in season, if we will only let our bees work perpendicularly in a properly proportioned hive, instead of forcing them to spread out laterally out of all proportions, and when Dr. Tinker and Jas. Heddon struck on the idea of dividing their brood chambers, giving combs greater depth, they made a long stride in the right direction, especially so with the Doctor, as it is the longer and contains more cubic space perpendicularly in proportion to the length and width.

In 1889 I helped a neighbor cut a bee tree that contained combs 8 ft. 3 in. in length, but the widest one would not average over 6 in. in width, because the hollow in the tree was so small. They had been in the tree only about 37 days, yet we got between 50 and 60 lbs. of honey out of it. The combs contained over 5 ft. of brood in depth. After leaving out the drone brood we got enough to fill 10 "L" frames and had some scraps left. Here was more brood than was possible for any man to obtain from one comb by lateral extension.

Some time ago I was in the northern part of this county and stopped with a man who had six colonies of bees in gums, two of which were uncommonly large, larger I believe than a flour barrel and some 4 or 6 in. longer. The combs were full length. They were full to the bottom. I said to the man, "You have two hives that are quite large." "Yes," said he, "those two hardly ever swarm, but when it comes to robbing I get four or five times as much honey from one of them as I do from any of the smaller ones." "I suppose," said I, "those

large ones don't have as many bees in them as the smaller ones, and perhaps that is the reason they fail to swarm." "Heap more," was the reply. This was what I of course had surmised; more bees and more honey.

And again, the "L" hive requires too much manipulation. We have to contract and pack for winter, expand to get the bees in the spring for the surplus crop, contract to secure the surplus crop, and again expand for the bees to build up for winter, which is entirely too much labor, and if we attempt to contract by using loose division boards we soon learn what a nuisance of a loose rattle-trap they are. If we must have a division board we want one that will fit sufficiently tight to stay where we place it. It seems to me that a piece of rubber-nailed an the ends would cause the boards to adhere to the walls and stay where we put them.

Concord Church, W. Va.

(To be continued.)

Toltec Gorge.

There has never been made, for general distribution, an art reproduction of the grandeur of Toltec Gorge that equals, in accuracy of detail and beauty of coloring, the Aquarelle presented with the October number of *The Great Divide* as its art supplement. Accuracy of detail was absolutely secured by adhering to the lines of the famous photograph of the scene taken by Mr. W. H. Jackson, while the coloring was made by *The Great Divide's* artist after careful study on the spot. The literary features of the journal are of special interest, the marvelous Moqui Snake Dance being described, with full page illustrations, by Dr. R. W. Shufeldt, of the Smithsonian institution. "Nibsey's Affair" (illustrated), by Lute H. Johnson—a story of mining life in Colorado—and sketches, poems, popular scientific articles of great variety and value, make up the contents. Sample copies of the October number, containing the art supplement, will be mailed to anyone enclosing ten cents and addressing, *The Great Divide*, Denver, Colo.



EDITOR AM. BEE-KEEPER, Dear Sir: Our honey crop has been almost an entire failure in this section of Pennsylvania. This arose more from the fact that bees were not in a condition to take an advantage of the locust and fruit bloom of which there was an abundance and not a lack of nectar.

But March kept exceedingly cold, as did also the fore part of April. This prevented breeding to a great extent. Another thing I have experienced here, viz: Bees breed faster when new honey is coming in than when they are obliged to draw on their sealed stores. Hence, in order to get bees in the best possible condition for the fruit bloom, which comes about the last week in April, lasting until about the middle of May, and the locust which follows suit, and last, but not least, the white clover, which comes on about June 1st, the past season has proven most conclusively to my mind, as well as to some others in this vicinity, that we must resort to stimulative feeding and protection, the latter being best accomplished by simply an outside case slipped down over the hive proper. This case can be made so as to be removed easily and quickly, when it is warm or during the day, and replaced when it is cool or during the night. Thus the hive is warmed up by the sun, and the case when slipped on retains this warmth, where, as in the chaff packed hive, the sun does not usually shine long enough to warm it through until

the cold air coming on the outside conducts it away again, and the average colony of bees do not generate sufficient heat in the spring to promote early breeding to the greatest possible extent, consequently heat must be applied to them, and this is not feasible with a chaff packed hive, and here I think is where the mistake is made, in trying to retain heat that actually is not there, instead of letting it in from the outside, when the sun is shining, and retaining it by slipping on a case. LOWRY JOHNSON.

Masontown, Pa., Nov. 9.

[We consider your points very well taken, Friend Johnson. It was with these ideas in view that we determined to construct our Thin Walled Hive and Winter Case, and they fulfill every requirement that you suggest. The case is easily and quickly removed and the Thin Walled Hive allows the heat of the sun to quickly penetrate to the interior.—ED.]

EDITOR AM. BEE-KEEPER, Dear Sir: You have sent me the Bee-Keeper several times without any pay, and I like its contents very much and enclose herewith 50c for a years subscription.

I would like to know what kind of bee would make the most honey? I have had the Italians and they are not as good as the bumble bees, for they will make enough during the summer to keep them over winter. The Italians make a great show, but they didn't make honey enough to last them a month. Are the Carniolans any better? Please answer in the Bee-Keeper.

I bought \$100.00 worth last year and lost the whole lot, and then I bought \$60.00 worth of ——. I sent for Italians and he sent me every-

thing, but not a swarm of full bloods. I would like to find the man that would send me a pure Carniolan queen in the spring. Yours truly,

HORACE WYMAN.

Lincoln Centre, Me., Nov. 4, 1891.

[Evidently, friend Wyman, you have had very poor luck with your bees. We do not think it was the fault, however, of the kind of bees you had, but probably there was no honey to be obtained by them in your locality. This was the case in many localities the past season. We do not know that Carniolan bees are any better honey gatherers than the Italians. Each breed have their friends.

By referring to our advertising pages you will find the addresses of a number of reliable breeders of Carniolan queens. We think you can get a pure queen from any of them. We hope that you will not be discouraged with bee-keeping but persevere, and we hope another season to hear a report of your success.—ED.]

EDITOR AMERICAN BEE-KEEPER,
Dear sir: Mr. A. N. Draper, in his article on "Wintering Bees," in a recent number, gives some excellent advice, and his system is good. Now, we all admit that hives require some kind of packing to secure successful wintering. Each bee-keeper has his pet method, and each thinks his way the best. I have given much study to this subject and think for the past three winters have been very successful with the following, which I call

MY METHOD.

I built a shed of hemlock lumber, 3 ft. wide, 12 ft. long, $4\frac{3}{4}$ ft. high at front and $3\frac{3}{4}$ ft. high at back. I laid two pieces of scantling for the bottom far enough apart to set my hives upon and laid straw between. Now, I set my hives on these scantling, leaving a space of two or three inches between each

hive, also between the hives and back of shed. After the first row of hives are in place I fill up the space with forest leaves, dry sawdust or shavings, first putting chaff cushions over the frames. Between the cushions and frames I put a sheet of matting, the kind that comes around tea chests. This you can get at any grocery. The first tier completed I put another tier on in like manner, and three can be added, or even a fourth, by building the shed higher. The animal heat is confined to the mass, and what is most necessary, an even temperature is retained. The front of this shed I board up very lightly, using but few nails, so I can easily remove it when the warm days come. The back of the shed should face the prevailing winds. The entrance of the hive I contract according to the size of the swarm. Small swarms have about one-half in. Large ones a full inch to two inches.

I have not lost a swarm the past three winters, and my bees were all healthy and in good condition in the spring. The top of each hive is raised $\frac{1}{8}$ of an inch to give ventilation.

If any of your readers can give us a better method than the above, let us hear from them. Yours, &c.,

HARRY L. DWIGHT.

Friendship, N. Y., Oct. 10, 1891.

[We think your method is a good one, but not entirely original. In another column Mrs. Harrison explains her way of wintering which is quite similar, only she has no top ventilation. In this respect your method, although more expensive, is superior.—ED.]

It does not pay to extract all the honey and feed sugar syrup for winter stores.



MOVING BEES INTO THE CELLAR.

The main points to be considered are when to do it and how to do it. Two or three years ago the question of when bees ought to be carried into the cellar was considerably discussed. The drift of the matter at that time was that we were leaving our bees out of doors too long, that the one or two flights that possibly might be secured by the delay were of no particular benefit. The bees had ceased to store honey or to breed, they seldom flew and consumed but little food, either honey or pollen; in fact they had settled down into a quiescent state and were ready for their winter's nap. No cleansing flights were needed. The intestines were not loaded, because almost no food was being handled or consumed, and nothing was voided in these late flights, if the bees did fly. It was argued that it was better to carry the bees in before they even felt the touch of Winter's stern hand, and before the hives were dampened by frost or snow or ice. Instances were mentioned where bees were carried into the cellar unusually early, yet wintered well. Some bee keepers said that, as time went by, each year found them putting their bees in the cellar at an earlier date. All this appears reasonable, and, for ought I know, is good doctrine. I have put bees in the cellar as early as November 10, and as late as December 15, and, so far as results were

concerned, I could see little difference. It is my belief that after bees have ceased active labors (honey gathering and brood rearing) for a sufficient time to allow their systems to get rid of the waste matter resulting from such labors, and they have had one or two flights after cool fall weather has set in, that any slight accumulations may be voided, I say it is my *belief* that nothing is gained by leaving them on the summer stands. That anything is gained by putting them in unusually early I doubt. I believe it has been argued that it disturbs them less to put them in early. That they have have not yet reached so advanced a stage of "hibernation" as my friend Clark calls it. Rousing a man just as he is on the point of falling to sleep is not so much of a shock as it is to awake him from a sound sleep, is the idea, but I don't take much stock in it, unless we are to use it in comparing the bringing in of bees early in the fall to bringing them in at mid-winter. In short I think it unimportant when the bees are brought in, provided they have really settled down for winter's inactivity and they are not left out until freezing weather sets in.

When the time arrives for carrying in the bees how shall it be done? If there are only a few colonies and they are near the cellar they may be picked up and carried in by "main strength," but if there are many to carry or the distance much, some other plan is needed. If there are two persons to do the work it simplifies matters, as the hives may be carried between them on a hand barrow. The barrow used by my brother and myself is made of two pieces of fencing each six feet long, the ends being shaved

down to a convenient size for handles. The two pieces of boards are placed upon their edges, about fifteen inches apart, and then fastened together by two cross-pieces nailed in between them. As the bee cellar is in a side hill, four hives could be placed upon the barrow and carried directly into the cellar. Where the cellar is under a building and must be entered by going down stairs, this sort of a barrow would not answer very well unless there were stakes put in to keep the hives from sliding, and the frames were not of the swinging style. Mr. H. R. Boardman has a cart behind which he can walk and from the front of which project arms that may be thrust straddle of a hive and the hive thus raised from the bottom board and wheeled into the cellar without so much as touching the hive with the hands. Mr F. H. McFarland, of Vermont, has a sort of neck-yoke to each end of which a hive may be attached by wire loops that pass under the hive. Mr Doolittle and Dr. Miller have each, I believe, some sort of a device that enables them to use their strength to the best advantage when carrying bees into the cellar. I have forgotten just how their arrangements were arranged, the same as I have in regard to quite a number of other devices that have been devised for this purpose. Carrying bees into or out of the cellar is hard work at best, and if there is any "best way" either for one man or two, let us find out what it is.

If an attempt is made to carry bees into the cellar during warm weather, or when the temperature is rising and the cluster expanding, there is trouble from

the bees leaving the hives on account of the disturbance. When the temperature is falling and the cluster contracting is the time to move them in. If the bottom boards are loose (and they ought to be) and there comes a day when "its growing colder all the time," just raise each hive an inch or two, putting a block under each corner. This will allow the cold to "get at" the bees, causing them to cluster more quickly and compactly, when they may be carried into the cellar without leaving a little cluster upon the bottom board or very many bees leaving the hive.

No, I would not bring in the bottom boards with the bees, and I would stack up the hives as practiced by Mr. Boardman. That is, if I had room enough. Set the bottom row of hives a foot or more apart. Let the distance apart be such that when the next row is placed upon the first, each hive may set over the opening between the lower hives. In other words, the ends of the upper hive will just nicely "catch on" to the upper ends of the two lower hives. Each row would be placed in a similar manner, thus leaving a space below each hive. For the lower row I would use empty hives. I would manage in some manner to have an empty space below the combs, for, without being able to say exactly *why*, I have noticed for several years that colonies so prepared, whether in doors or out, have wintered better than where the bottom boards came up close to the bees. Put the weakest colonies at the top.—*The Review*.

FOUL BROOD.

Foul brood is worse among bees than contagious disease in an army,

since the former will wipe out the whole apiary as well as all the bees in the neighborhood. I do not consider it contagious only as the honey from an affected colony is introduced into another colony, no matter how small the quantity. It affects only the larvæ. It grows until about eight days of age, then dies and decays, emitting an odor that would remind an old soldier of a recent battle-field. It is the odor of strong coffee. Touch the point of a knife to it and it will string out like hot maple sugar, or soft soap. The caps of the cells will be sunken and some only partly capped. Many of the larvæ will hatch so the combs will appear similar to a fertile worker laying eggs in some cells and others empty. The bees commence to dwindle in number, and the combs keep filling up with foul brood, while the colony is soon used up. If there is any honey left in the hive the other bees will soon find it and carry it to their own hives, when they are certainly doomed.

When a colony is found which has a cell of foul brood it should be closed up tight as soon as possible, so that no bees can go in or out; then before you open another hive, wash in strong soapsuds your knife, hands and all exposed parts, also every tool or anything else that has come in contact with the foul brood hive. At night, after the bees have stopped flying, take the foul brood hive and carry it to the cellar, removing the queen and let the hive stand twenty-one days, to hatch out all the brood that can be hatched. Next take the frame and brush all the bees into an empty box and permit it to remain for forty-eight hours to have them consume all the

honey they brought into the box with them. Then to a half an ounce of salicylic acid add one quart of water, and with an atomizer sprinkle the bees. Secure some clean comb, or foundation, with a good prolific queen, and plenty of feed, in a new clean hive. Spray the bees and combs every other day for a week, and if early in the season a good swarm may still be made of it. If there is much foul brood and honey in the hive, the best method of getting rid of it is to dig a hole in the ground and bury it, frame and all. To save hives for future use, take the brood box, stand, honey board and entrance-slide and slip them into strong hot lye, in the fall of the year, or on some days the bees are not flying, or will not visit the affected hives. After the hives are thoroughly washed in lye let them be exposed as much as possible to the air until the subsequent season.

The cause of foul brood has not yet been satisfactorily ascertained. Bee-keepers differ in their opinions upon this subject. It seems liable to occur in almost any latitude or locality. I have personally known its existence in Virginia, Kentucky, Iowa, New York, Canada and Vermont.—*American Cultivator*.

CYPRUS; BEES AND BEE-KEEPING.

Only eleven years are past since Jones and Benton left America in search of the Eastern bees, and imported hundreds of the yellow beauties into Europe and America; and now I should say it is next to impossible to have one single pure Cyprian. Isn't this a curious fact? Many parties have been writing to me to have Cyprian queens; but up to last fall Mr. Benton had had the

choice; and as I am no queen breeder I almost always directed to him. Although Cyprus can be reached from Jaffa in 24 hours I never thought it would pay to go there myself; but I wanted a little bit of fresh sea-air. The trip to Cyprus and back was supposed to take four days. Up coast the steamer passes Casarea Palestina, mentioned in the Acts. where St. Paul was tried before King Herod and Felix, and here he appealed unto Caesar. Only ruins of bygone beauty mark the place, and a Bosnian colony of Mohammedan emigrants are now building up into a new Casarea.

After six hours by sea the steamer anchors in the bay of Acre, at the foot of Mt. Carmel, where a German settlement is flourishing in all but bee-keeping. Some have clay cylinder hives, others box hives, and some Dathe Dzierzon, and other German hives. They average very little honey, owing to want of pasturage in the immediate vicinity of the town of Haifa and the want of knowledge. Mt. Carmel itself is beautifully covered with melliferous plants, sages, thymes, and others. In one of the Russian-Jewish refugee colonies on Mt. Carmel one of my scholars is putting up an apiary, after the Langstroth system and seems to have done tolerably well.

Going up the coast we passed Tyre and Sidon by night, and morning found us at the foot Mt. Lebanon. Two days were lost at anchor at Beyrouth. A gale would not allow the steamer to discharge the goods: and when, on the morning of the third day, we arrived at Larnaca, in Cyprus, the steamer had gone, and I was told that before a fortnight was over, I could not go back again. What a dull hope,

to be walking about a small town, with the prospect of enjoying its crumbled walls and Cypriotes for a fortnight, while the bees in Palestine are in vain awaiting me to take them to pastures new! I then concluded not to leave home again, at least not in May, across the sea, when work is pressing. How often did I hear about this "abode of the gods"! but the Turks have done their part in destroying nature and art. It is not now to be envied. The position is good; the climate, like all Mediterranean countries, is haunted with fever in the lowlands; but, besides this, locusts have been roaming over the land, and destroying what little green the numerous goats left, which themselves have been gnawing the young growth, preventing, in connection with Turkish misrule, the restoration to its charms. The British Government is trying to restore the island; but it certainly will be long before the inhabitants will awake from their drowsy nap. And right here friends Jones and Benton first brought American ideas and bar-frame hives; and the only thing I found here was two two-frame nuclei in the house of Mr. Derwishian, a graduate of Benton's school. The day before I arrived, another of Benton's scholars had gathered every movable hive and had steered into Egypt to improve the Egyptians, as I understood; but not having seen him I was sorry to find I had come here to go back again without taking even a Cyprian queen with me.

The two two-frame nuclei at Mr. Derwishians were as cross as cross can be. Smokers and veils of enormous size availed nothing. I never saw such a bad lot, even in Palestine, except when the camels had upset quite a number of hives, and they were pitching at us in fury. Mr. D. attributed this behavior to Mr S. G.'s rough handling the day before, or three days before. Mr. D. insisted on working them without smoke, which was just the right thing to keep us at a distance,

and I could not enjoy the pleasure of seeing the queen. Since I came back the queens have mated, and I receive one here which is developing nicely, with very nervous bees. Mr. D. has sold all his bees to Mr. L. who started with them to Egypt, and he himself will leave the island, thus leaving nobody to care for Cyprian queens or bar-frame hives. He had a beautiful arrangements for silk worm raising. The moths were actively engaged laying eggs, while he had a nice white funnel through which the eggs were dropping into little sacks. Mr. D. pretends to have a method of raising healthy insects, peculiar to himself, and tries to beat the French market. He will not divulge his secret but keeps it to himself. He has dropped bee-keeping altogether, as he does not believe in returns from this business. It certainly is a poor place for honey; and as he could not depend upon queen sales, from different causes, he has made up his mind to give up bees which gave no honey, and the island altogether, as the climate has ruined his health and the islanders his feelings. He had given a man a few hives a year ago; and when he invited me to take a look at them, the superstitious Cypriote objected, fearing the effect of the evil eye. After demonstrations, dickerings, and threatenings the man at length gave way, and we proceeded to the clay-cylinder apiary.

The way led us through badly paved and narrow streets until at length we arrived at the house, which was in a miserable condition. Through a low gateway he led us to his garden where a profusion of lemon trees, orange trees, pomegranates, and others were planted in a disorderly way. In the midst of the garden he had arranged his hives in a pyramidal shape above each other, with stone slabs closing up both ends of the two or three foot cylinders. A big entrance-hole, (big enough to let the death-head moths and hornets fall upon unprotected hives) was in the lower part of the slab. The bees were

working actively on cucumber, vegetable marrow, and other flowers of the *cucurbitaceae*, especially the "squirting cucumber" (*Ecballium elaterium*), which yields bitter honey. This plant grows wild all over the East, but seems to prefer ruined places. Ashes and crumbled building material seems to be just the right thing to make them thrive. The plant very much resembles the cucumber at a distance, with its small yellow flowers; but coming nearer you find the leaves prickly, much rougher than garden cucumbers, and the fruit a tiny cucumber growing at an angle of 45 degrees on an upright stalk. When we boys used to run about the ruins of Zion and Jerusalem we used to have great fun touching one of the ripe fruits, and off they go on the next person, sending out the juice and seeds right into the face or some part near the direction the fruit points. This is one of Nature's curious ways of propagating its kind by sending off the seeds to a great distance. The cactus was also yielding some honey; but as too few hedges grow around Larnaca, and the cactus yields honey very sparingly, this source is equally a poor one. Thistles also, of the *carduus* tribe, grow round the town: and the best of all honey-plants for summer was just beginning to come into bloom—the thyme—of which we met four donkey loads being brought to town from the mountains, for the oven. I felt very fidgety about it, although not living in the place; still, in Palestine they are doing the same thing, and robbing bees of their pasturage in the near future. Plenty of carob-trees grow all over Cyprus, and these carobs form an important article of export, while the flowers yield honey of a dark brown color. In places where cotton and hemp are cultivated, the bees also get a chance to gather some surplus; but cultivation or agriculture is carried on in the most primitive way.

But the beauty and fruitfulness of this island have gone, partly by the

carelessness of its inhabitants, by the past government, and the teeth of 250,000 goats roaming about the island. The British government has done a good deal to make the island in some distant future what it was

When Ceres, bounteous giver of the store,
With lavish horn gave ever more and more.

But the heavy taxes which the British government levies on the poor inhabitants weigh so much on them that it will take a generation before the island will begin to show, before better methods to cultivate the soil, and maturing, will have come into vogue.

Here, as in Malta, I could find no statistics about bees or honey. Although the government levies 2 pence on each hive, nothing could be found out positively. Only approximately could we find a few numbers.

Bee-keepers here depend on wild honey-plants. No clover or such plants grow here. As we have very long and dry summers, the scattering of honey-plant seeds would avail little or nothing on hard, uncultivated, sun-scorched grounds. And, again, neither Cypriote nor Syrian nor Palestinian would trouble himself or move a finger in such work. Cyprus would yield just as nice and as much honey if some intelligent bee-keeper would go ahead and put up his apiary in such places as afford pasture enough; but, to be sure, I would not change another locality to live among a degraded race, such as the Cyprians, so long as there are a good deal better places to live in.

Going round the town, a candle-manufacturer was busy manufacturing pure wax candles (mixed with 50 per cent of ceresin) for the churches, with which the island is well provided, belonging mostly to the Greek orthodox. The man had a big kettle on the fire, in which he put his wax to melt. A sieve, simply put inside the fluid mass, kept all filth out; and with a ladle he was taking out hot wax and pouring it over foot-long cotton threads hanging over the kettle by hundreds. As soon as the wax was cooled, another ladle-

ful was poured over, till every thread had received some. The first was again cooled enough, and patiently he slowly went over his lot, every time thickening the candles. He had some weighing several pounds, while the greater part weighed 12 or more to a pound. The beautiful yellow candles go fast into the churches as offerings. For sick persons, or any other vow, candles are offered. The whole island may possess between 10,000 and 30,000 bee-hives, which rise and fall in number according to the seasons, and these average about 3 lbs. of honey and $\frac{1}{4}$ lb. of wax per hive, which is almost all sold on the island itself. Government taxes are 2 pence a hive.

As in all other Mediterranean countries, the bees swarm out in April and May, and drones are killed soon after. The honey is taken after the 24th of June, (equal to our 7th of July), St. John's day. Taken before this the honey must taste bitter—not because it is mixed with the bitter flower of the squirting cucumber, but because St. John's blessing must fully come down on the hives and take away every bitterness! The honey is cut up into small chunks, and put into baskets away from robbers, to allow the honey to drip out. The wax is melted in a kettle and in a sack, and is squeezed out with the simplest machinery possible. Mr. Derwishlan tried another day to open his nuclei; but after having got the first sting on his forehead in his life, he put on a veil and took me to his "lamblike" Cyprians, and gave them a few table-spoonsful of syrup to quiet them down; but even this sweet inducement would not do. They went for us, all for the sake of Louis G.'s rough handling three days ago. I could hardly look at them, and we decided to have a turn about the town, but we were soon done. Mr. D. took me to silkworm raisers. He indulges in this branch, and believes he gets a better living from this than by buying bee-fixtures from England. He was told, years ago, of 20 to 50 lbs.

average surplus per hive, but believes he was humbugged. He is almost too cautious, suspicious, and mistrusting of his fellow-creatures. What would he say if he could read reports like friend Osborn's from Cuba, or friend King's from Phoenix, Arizona? I wonder, too, why American bee-keepers have not established themselves in such a paradise. Why! we over here have none of the advantages of Arizona nor what Mr. King calls Cuba's disadvantages, excepting the great heat. But here, besides the duty on bees and honey, the poor help we have to put up with, and the poor market we have to seek in Europe and Africa, we have no forests to give us shade, but plenty of unhealthy districts.

Cyprus, being a little out of the way, steamers only occasionally touch here; and having no time to spare, and still here, I got into a sailing vessel about to leave Syria, but the wind being calm we lay in the road till night. After 24 hours of slow sailing we were still in sight of Mt. Troodos, and could dream of "the beautiful Cyprus," and think

What dreams of Old-World tales flit o'er thy brow,
O Troodos, in thy calm rest today?
Vain visions of the future of the isle thou guardest
in thy lofty majesty?

But next morning, 36 hours after we left, our vessel was being idly thrown about by the waves, without proceeding, from morning till night. The loose masts were squeaking as if to tease us and try our patience. The next morning a fine breeze filled the sails and speedily drove us forward. Just before night we could distinguish, many miles away, Mt. Lebanon.

How glad I was to leave the poor little vessel, in which my "first-class berth" was bare planks, after having been tossed about three days and three nights! I fancied the town of Beyrouth could not stand still.—*Ph. J. Baldensperger, in Gleanings.*

Jaffa, Syria, Oct. 1.

Subscriptions may begin with any month.

The American Bee-Keeper,

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THE AMERICAN BEE-KEEPER.
FALCONER, N. Y.

Subscribers finding this paragraph marked with a blue cross will know that their subscription expires with this number. We hope that you will not delay in sending a renewal.

A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

With this number closes the first volume of the AMERICAN BEE-KEEPER, and we feel that it can no longer be regarded as an experiment or an uncertainty. It must be regarded as a permanent fixture in Apian Journalism. We promised you, when we first started its publication, that it would continue to flourish when many of its cotemporaries were gone, and we have now to record that our word has been fulfilled. At least four have dropped out of the struggle during the past few months. We are glad, however, to be in a position to assure our friends that the BEE-KEEPER has been a financial success from the start, as our subscription list has continued to grow from month to month beyond our expectations, and our advertising columns have been so crowded at times that we could not print all the ads. which were offered us.

Our subscribers are scattered almost

over the entire globe, there being but few civilized countries where the BEE-KEEPER does not go.

We have endeavored to give our readers comprehensible and impartial views of the different important subjects we have been presenting, and if in any way we have failed, you have had our honest efforts at least. During the coming year we shall endeavor to make our columns even more entertaining and instructive than in the past, for we hope to improve by experience.

We wish all our many friends a Merry Christmas and a Happy, very happy and successful New Year.

Up to the 17th of last month we have never had a finer fall than the one just passed. There were few days when it was so cold as to make extra wraps necessary, and there was not more than a week or ten days of rainy weather since the first of Sept. On Nov. 17th the weather changed very suddenly, and on the 18th there was nearly a foot of snow, and at the time this is being written the snow is still falling, and it is quite cold. Huge icicles are hanging from the roofs of our buildings and the chaff hives in the bee yard are buried in snow. No doubt the sudden coming of fierce old winter has caught many of our friends "napping," and many good colonies of bees will perish by not being properly prepared for winter, as doubtless all have not yet finished feeding. In such cases candy should be fed.

There is one thing to which we have often been on the point of referring, and that is the proneness of some of our customers to complain of shortages on shipments of some parts of hives or

other furniture, before examining all the packages, when on examination, the parts which were supposed to be lost or left out are found, but not until they have written us their complaint and we in turn had, in many cases, shipped extra parts by express at a heavy expense, to replace the supposed deficiencies. In almost nine cases in every ten the goods were shipped exactly as ordered. We hope our friends will not be too hasty in making such complaints, but will look their goods over thoroughly before writing.

As stated at different times, we notify subscribers by a blue pencil mark on one of the paragraphs at the head of the editorial columns when their subscription expires, and if no notice is taken we continue sending the magazine for six months afterward, and then mail a special notice to those from whom we have heard nothing, and unless ordered to do otherwise we will then stop sending. We do not wish to force anyone to take the BEE-KEEPER longer than they wish to, but if not ordered stopped we expect to receive pay for the extra six months that it is sent.

Are you going to the North American Bee-Keepers' Convention at Albany, December 8th to 11th? There ought to be a large attendance. Reduced railroad fare can be obtained on all trunk lines by purchasing full fare tickets going, and getting with the ticket a certificate from the railroad agent filled in on one side. At Albany the secretary will fill out the other side for you, and by presenting it to the ticket agent at Albany when you purchase your return ticket you will be required to pay only one-third regular fare.

As recorded last month, the D. A. Jones Co. have gone out of the manufacturing business. We regret the necessity that compelled them to do so, but "its an ill wind that blows nobody good," and we are glad to say we have secured the services of their late foreman, Mr. E. O. Young, who will be general superintendent of our entire plant, and our customers can be assured that from now on they will find our goods even superior to the excellent quality they have ever sustained.

A great many subscriptions expire with this number and we hope each one will hasten to renew at once. We think that you will all agree that the BEE-KEEPER is worth the price of subscription. We are quite sure that we have given you 50c worth of time and thought during the past year. There are many single articles which alone are worth many times more than the cost of subscription. Renew at once.

On page 165 Friend Massie, in his article on "What I have observed, &c." is made to say, "that the passage over the top bars is *not* a mistake," when in fact he intended to say "it is a mistake." It was only a printer's error, but one of those where the entire meaning was changed.

The *White Mountain Apiarist* has not put in an appearance for several months at this office. It has not ceased publication, so we are informed by its publisher, but will appear regularly from now on.

It is now a splendid time to send in your subscription so as to get the complete volume for 1892.

Now is the proper time to get up a club of subscribers to the BEE-KEEPER. We will allow you 20 per cent. commission, and hope to increase our circulation at least 300 subscribers a month from now on.

We present our subscribers this month with a complete index of this, the first volume of the BEE-KEEPER.

TO OUR CUSTOMERS.

The "signs of the times" already point to a very busy and prosperous spring season, and it will behoove everyone to look over their stock of supplies, and if there is anything needed that can possibly be ordered this winter, we hope you will not hesitate to send in for it as soon as possible. The discount for Dec. will be 4 per cent.; Jan. 3 per cent.; Feb. 2 per cent.

Our goods the coming season will be made from the very best material and in the best manner. We have all the latest devices in machinery, and we are now at work constructing a new machine for making one-piece sections, which will enable us to produce better sections than we have ever made heretofore, and with our immense stock of dry and white basswood, there will be no liability whatever of our sending out an inferior article. Those of our customers who last season received from us sections or other goods that were not up to our usual excellent standard are especially invited to favor us with a trial order. We are sure we can please you.

Our new illustrated catalogue for 1892 will be mailed you sometime in January. It will be larger and more complete than ever.

If you have \$5.00 to spend, spend it for bee books and bee journals.

THE AMERICAN BEE-KEEPER.

Index to Volume I.

NAMES OR SUBJECTS.	PAGE.
Auxiliary Colony, The, ...	6
Advice to Beginners, ...	50
Ants in the Apiary, ...	53
Automatic Swarm Hiver, The, ...	74
Apiculture in Canada, ...	161
Bee-Keeping for Women, ...	84
Best Size of Hive for Extracted Honey, ...	87
Bee Escapes, ...	93
Bee Pasturage in Texas, ...	115
Beware of too Many Swarms, ...	122
Bees and the Farm, ...	172
Convention, N. Y. State Bee-Keepers, ...	5
Cuba, A Letter from, ...	8
Correspondence, 8, 38, 55, 71, 88, 105, 120, 136, 150, 167, 182.	75
Comb Foundation, ...	86
Carniolan Bees, ...	186
Cyprus Bees and Bee-Keeping, ...	118
Can Bees be Improved?	22
Dark Subject, A, ...	48
Dewey Peet Cage, ...	57
Double Case Hives, ...	57
Double vs. Single Wall Hives, ...	71
Does it Pay to Use Foundation, ...	82
Drone Comb, ...	116
Drawing out Comb Foundation, ..	137, 152, 171, 184.
Editorials, 13, 28, 44, 60, 76, 94, 110, 126, 142, 158, 175, 190.	1
Fixed vs. Loose Bottom Boards, ...	37
For Beginners, ...	56
Flowers, ...	65, 134
Feeding Bees, ...	67
"Friend" in Apiculture, ...	132
Fertile Workers and What to do With Them, ...	137
Feeding Back, ...	185
Foul Brood, ...	99
Golden Carniolan Bees, ...	91
Hen and The Honey Bee, The, ...	129
How Can We Elivate the Standard of Our Bees?	139
Hints to Beginners, ...	150
How I Wintered My Bees, ...	154
How Shall We Prepare Our Bees for Winter?	174
House Apiaries and Bee Escapes, ...	26
Improvement in Bee-Culture, ...	66, 133
Instructions to Beginners, ...	100
King Bird, The, ...	11
Look Out for Rats, ...	57
Little Ah Sid, ...	70
Large or Small Hives, ...	92
Locating an Apiary, ...	123
Local Market for Honey, The, ...	17
Management of Bees in Winter, ...	153
Mine of Honey, A, ...	20
Moving Bees to Secure a Fall Flow of Honey, ...	184
Moving Bees into the Cellar, ...	123
Management for August, ...	

NAMES OF SUBJECTS.	PAGE.
No Duty on Queens, ...	102
New Uses of Perforated Zinc Queen Excluding Boards, ...	151
New Year, A, ...	4
North American Bee-Keepers' Convention, ...	178
Our New Outside Winter Case and Thin Hive, ...	78
Practical Hints in Bee-Keeping, ...	179
Plenty of Bees, Plenty of Honey, ...	33
Proper Spacing of Brood Frames, The, ..	41
Poetry, ...	71, 91
Proceedings of the Erie Co. Bee-Keepers' Association, ...	103
Porter Bee-Escape, ...	107
Punic Bees, The, ...	125
Progressive Bee Culture, ...	130, 148
Putting Bees into Winter Quarters, ...	163
Queen Excluders in the Production of Comb Honey, ...	2
Queen Bee Items, ...	92
Rhode Island Nellis Hive, The, ...	30
Rambler in Providence, ...	42
Robbing, Italianizing and How to Introduce Queens, ...	113
Springing Bees, ...	58
Spring Treatment of Weak Stocks, ...	52
Spring Protection, ...	49
Some Mistakes of Some Bee-Keepers, ...	58
Seasonable Sayings, ...	62, 78, 117
Starting in Bee-Keeping, ...	101
Secret of Outdoor Wintering, ...	5
Swarm Hiver, A New, ...	48
The 1891 Outlook, ...	36
True Color of Carniolan Bees, ...	97
Take the Frame Hive, ...	107
Three Methods of Introducing Queens, The, ...	140
Unprotected Hives, ...	7
Uniting Bees, ...	152
Ventilating Bee Hives, ...	146
Wood Zinc Queen Excluder, The, 24, 35, 54, 69.	
Where and How to Build Honey Houses, ..	42
Wintering Bees, ...	146, 177
Wintering, ...	157
What I have Observed &c., ...	164
Ventilating Hives, ...	178

Index to Contributors.

	PAGE.
Ashmead, T. G., ...	40
Axtell, Mrs. L. C., ...	53
Abel, Geo. W., ...	73
Andrews, John, ...	73, 78, 88, 136
Alley, Henry, ...	74, 91, 99, 118
Brown, A. F., ...	10
Benton Frank, ...	97
Bacon, Geo., ...	100
Brands, S. B., ...	105
Brokaw, Lionel, ...	137
Boxwell, Wm., ...	167
Barrows, O. B., ...	170

THE AMERICAN BEE-KEEPER.

	PAGE.
Barker, H. D.,	170
Cromley, I. J.,	73
Cyrenius, F. H.,	151
Draper, A. N.,	20, 146
Demaree, G. W.,	26, 179
Doolittle, G. M.,	33, 82
Dwight, H. L.,	56, 89
Dewitt, M. H.,	66, 83, 101, 113, 133, 146, 163
Dewey, F. H.,	67
Dugdale, T. I.,	88
Dewey, F. H. & E. H.,	102, 132
Dayton, Mrs. F. A.,	122
Fisher, T. G.,	73
Frost, Chas. W.,	136
Farmer, A.,	168
Gates, Jas. F.,	50
Harrison, Mrs. L.,	4, 37, 65, 134, 177
Holterman, R. F.,	7, 49, 116
Hasty, E. E.,	22
Heddon, Jas.,	36
Hardy, Chas. C.,	39
Hart, A. C.,	41
Hewes, William G.,	70
Head, Alb.,	89
Hallenbeck, Mrs. A. L.,	89
Hubbell & Potter,	105
Hardy, S. P.,	150
Jeffrey, H. L.,	41
Jones, H. T.,	120
Kemper, John H.,	73
Kelley, Thos. G.,	106

	PAGE.
Lafler, E. E.,	55
Lockhart & Co., F. A.,	105
Leet, P. W.,	150
Miller, Dr. C. C.,	1, 39, 117
Mother Superior,	40
Miller, Arthur C.,	52
Mosier, S. H.,	72
Melick, W. D.,	105
Massie, T. K.,	164
Nelson, S.,	137
Osborne, A. W.,	8, 40, 122, 168
Pratt, E. L.,	5, 62, 225, 129
Pringle, Allen,	161
Pond, J. E.,	178
Rogers, H. J.,	40
Roose, Stephen,	41
Robinson, C. J.,	17, 86, 130, 148
Stockwell, George A.,	6
Struder, William,	55
Smith, Harm.,	56
Simpkins, G. A.,	72
Sherman, Mrs. S. E.,	84, 115
Story, D. B.,	90
Slaubaugh, John,	106
Smith, Calvin W.,	106
Sheetz, Isaac,	120
Sempke, Otto F.,	150
Tinker, Dr. G. L.,	2, 24, 35, 54, 69, 87
Teel, J. F.,	71
Wilmont, Miles H.,	90

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

NEW YORK, Nov. 21.—The demand for honey is good and the demand decreasing. Price for comb No. 1, 14@15c for one pound. Extracted $5\frac{1}{2}$ @7 $\frac{1}{4}$. Light demand for beeswax with moderate supply. Prices 25 $\frac{1}{2}$, 27 $\frac{1}{2}$. As usual the business falls off towards the holidays. We are buying dark extracted honey.

F. G. STROHMEYER & CO., 122 Water St.

ALBANY, N. Y., Nov. 23.—The demand for honey is good, and the supply liberal. Price of comb 9@15c. Extracted 6@8c. Demand for Beeswax is fair with light supply. Price 24@26c, having a slightly downward tendency.

CHAS. W. MCCULLOUGH & CO., 393 Broadway.

ALBANY, N. Y., Nov. 21.—Honey in good demand with good supply. Price of Comb 9@15c. Extracted 6c@8c. Beeswax in steady demand at 28@30c, with light supply. Prices of honey are good considering the large crop.

H. R. WRIGHT, 326 and 328 Broadway.

CHICAGO, ILL., Nov. 24.—Demand for white comb honey in one pound sections is good at 16c. Average grades of white 14@15c. Basswood honey 10@12c. Extracted selling slowly owing to the warm weather. We quote 6 $\frac{1}{2}$ @7 $\frac{1}{2}$ c. Beeswax in good demand with light supply, 26@27c.

S. T. FISH & CO., 189 S. Water St.

BOSTON, MASS., Nov. 23.—The demand for honey is good with large supply. Price of comb 14@16c. Extracted 7@8c. No beeswax on the market.

BLAKE & RIPLEY, 57 Chatham St.

KANSAS CITY, Mo., Nov. 21.—The demand for honey is fair with fair supply. Price of comb, white, 15@16c. Dark 10@12c. Extracted white 7@7 $\frac{1}{2}$ c. Dark 5@6c. Beeswax in good demand at 23@25c, with very light supply.

CLEMONS, MASON & CO., Cor. 4th and Walnut Sts.

KANSAS CITY, Mo., Nov. 21.—Honey is in good demand with good supply of comb. Price, white, 15@16c. Extracted, white, 7@7 $\frac{1}{2}$ c. Beeswax in light demand with small supply. Prices 23@26c. Very little extracted offered. The comb surplus is large. 11 AMELIN & BEARSS, 514 Walnut St.

ST. LOUIS, Mo., Nov. 23.—Honey is in very poor demand with a fair supply. Price of comb 10 $\frac{1}{2}$ @12 $\frac{1}{2}$ c. Extracted 4 $\frac{1}{2}$ @5c. Beeswax is in very light demand with good supply. Price 24c. for prime.

THE D. G. TUTT GRO. CO.

CINCINNATI, O., Nov. 20.—The demand for honey is slow for this time of the year. Supply is good of all kinds. Price of comb 12@16c. in a jobbing way. Extracted brings 6@8c on arrival. There is a fair demand for Beeswax with good supply. It brings 23@25c on arrival for good choice to yellow. CHAS. F. MUTH & SON, Freeman and Central Ave.

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